

DIETARY COMPUTER

TX
551
R51



Class _____

Book _____

Copyright N^o _____

COPYRIGHT DEPOSIT.





THE DIETARY COMPUTER.

EXPLANATORY PAMPHLET

THE PAMPHLET CONTAINING

*TABLES OF FOOD COMPOSITION,
LISTS OF PRICES, WEIGHTS, AND MEASURES,
SELECTED RECIPES FOR THE SLIPS,
DIRECTIONS FOR USING THE SAME.*

BY

ELLEN H. RICHARDS,

Instructor in Sanitary Chemistry, Massachusetts Institute of Technology.

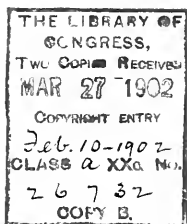
ASSISTED BY

LOUISE HARDING WILLIAMS.

FIRST EDITION.

FIRST THOUSAND.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 1040 1041 1042 1043 1044 1045 1046 1047 1048 1049 1050 1051 1052 1053 1054 1055 1056 1057 1058 1059 1060 1061 1062 1063 1064 1065 1066 1067 1068 1069 1070 1071 1072 1073 1074 1075 1076 1077 1078 1079 1080 1081 1082 1083 1084 1085 1086 1087 1088 1089 1090 1091 1092 1093 1094 1095 1096 1097 1098 1099 1100 1101 1102 1103 1104 1105 1106 1107 1108 1109 1110 1111 1112 1113 1114 1115 1116 1117 1118 1119 1120 1121 1122 1123 1124 1125 1126 1127 1128 1129 1130 1131 1132 1133 1134 1135 1136 1137 1138 1139 1140 1141 1142 1143 1144 1145 1146 1147 1148 1149 1150 1151 1152 1153 1154 1155 1156 1157 1158 1159 1160 1161 1162 1163 1164 1165 1166 1167 1168 1169 1170 1171 1172 1173 1174 1175 1176 1177 1178 1179 1180 1181 1182 1183 1184 1185 1186 1187 1188 1189 1190 1191 1192 1193 1194 1195 1196 1197 1198 1199 1200 1201 1202 1203 1204 1205 1206 1207 1208 1209 1210 1211 1212 1213 1214 1215 1216 1217 1218 1219 1220 1221 1222 1223 1224 1225 1226 1227 1228 1229 1230 1231 1232 1233 1234 1235 1236 1237 1238 1239 1240 1241 1242 1243 1244 1245 1246 1247 1248 1249 1250 1251 1252 1253 1254 1255 1256 1257 1258 1259 1260 1261 1262 1263 1264 1265 1266 1267 1268 1269 1270 1271 1272 1273 1274 1275 1276 1277 1278 1279 1280 1281 1282 1283 1284 1285 1286 1287 1288 1289 1290 1291 1292 1293 1294 1295 1296 1297 1298 1299 1300 1301 1302 1303 1304 1305 1306 1307 1308 1309 1310 1311 1312 1313 1314 1315 1316 1317 1318 1319 1320 1321 1322 1323 1324 1325 1326 1327 1328 1329 1330 1331 1332 1333 1334 1335 1336 1337 1338 1339 1340 1341 1342 1343 1344 1345 1346 1347 1348 1349 1350 1351 1352 1353 1354 1355 1356 1357 1358 1359 1360 1361 1362 1363 1364 1365 1366 1367 1368 1369 1370 1371 1372 1373 1374 1375 1376 1377 1378 1379 1380 1381 1382 1383 1384 1385 1386 1387 1388 1389 1390 1391 1392 1393 1394 1395 1396 1397 1398 1399 1400 1401 1402 1403 1404 1405 1406 1407 1408 1409 1410 1411 1412 1413 1414 1415 1416 1417 1418 1419 1420 1421 1422 1423 1424 1425 1426 1427 1428 1429 1430 1431 1432 1433 1434 1435 1436 1437 1438 1439 1440 1441 1442 1443 1444 1445 1446 1447 1448 1449 1450 1451 1452 1453 1454 1455 1456 1457 1458 1459 1460 1461 1462 1463 1464 1465 1466 1467 1468 1469 1470 1471 1472 1473 1474 1475 1476 1477 1478 1479 1480 1481 1482 1483 1484 1485 1486 1487 1488 1489 1490 1491 1492 1493 1494 1495 1496 1497 1498 1499 1500 1501 1502 1503 1504 1505 1506 1507 1508 1509 1510 1511 1512 1513 1514 1515 1516 1517 1518 1519 1520 1521 1522 1523 1524 1525 1526 1527 1528 1529 1530 1531 1532 1533 1534 1535 1536 1537 1538 1539 1540 1541 1542 1543 1544 1545 1546 1547 1548 1549 1550 1551 1552 1553 1554 1555 1556 1557 1558 1559 1560 1561 1562 1563 1564 1565 1566 1567 1568 1569 1570 1571 1572 1573 1574 1575 1576 1577 1578 1579 1580 1581 1582 1583 1584 1585 1586 1587 1588 1589 1590 1591 1592 1593 1594 1595 1596 1597 1598 1599 1600 1601 1602 1603 1604 1605 1606 1607 1608 1609 1610 1611 1612 1613 1614 1615 1616 1617 1618 1619 1620 1621 1622 1623 1624 1625 1626 1627 1628 1629 1630 1631 1632 1633 1634 1635 1636 1637 1638 1639 1640 1641 1642 1643 1644 1645 1646 1647 1648 1649 1650 1651 1652 1653 1654 1655 1656 1657 1658 1659 1660 1661 1662 1663 1664 1665 1666 1667 1668 1669 1670 1671 1672 1673 1674 1675 1676 1677 1678 1679 1680 1681 1682 1683 1684 1685 1686 1687 1688 1689 1690 1691 1692 1693 1694 1695 1696 1697 1698 1699 1700 1701 1702 1703 1704 1705 1706 1707 1708 1709 1710 1711 1712 1713 1714 1715 1716 1717 1718 1719 1720 1721 1722 1723 1724 1725 1726 1727 1728 1729 1730 1731 1732 1733 1734 1735 1736 1737 1738 1739 1740 1741 1742 1743 1744 1745 1746 1747 1748 1749 1750 1751 1752 1753 1754 1755 1756 1757 1758 1759 1760 1761 1762 1763 1764 1765 1766 1767 1768 1769 1770 1771 1772 1773 1774 1775 1776 1777 1778 1779 1780 1781 1782 1783 1784 1785 1786 1787 1788 1789 1790 1791 1792 1793 1794 1795 1796 1797 1798 1799 1800 1801 1802 1803 1804 1805 1806 1807 1808 1809 1810 1811 1812 1813 1814 1815 1816 1817 1818 1819 1820 1821 1822 1823 1824 1825 1826 1827 1828 1829 1830 1831 1832 1833 1834 1835 1836 1837 1838 1839 1840 1841 1842 1843 1844 1845 1846 1847 1848 1849 1850 1851 1852 1853 1854 1855 1856 1857 1858 1859 1860 1861 1862 1863 1864 1865 1866 1867 1868 1869 1870 1871 1872 1873 1874 1875 1876 1877 1878 1879 1880 1881 1882 1883 1884 1885 1886 1887 1888 1889 1890 1891 1892 1893 1894 1895 1896 1897 1898 1899 1900 1901 1902 1903 1904 1905 1906 1907 1908 1909 1910 1911 1912 1913 1914 1915 1916 1917 1918 1919 1920 1921 1922 1923 1924 1925 1926 1927 1928 1929 1930 1931 1932 1933 1934 1935 1936 1937 1938 1939 1940 1941 1942 1943 1944 1945 1946 1947 1948 1949 1950 1951 1952 1953 1954 1955 1956 1957 1958 1959 1960 1961 1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069 2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082 2083 2084 2085 2086 2087 2088 2089 2090 2091 2092 2093 2094 2095 2096 2097 2098 2099 2100 2101 2102 2103 2104 2105 2106 2107 2108 2109 2110 2111 2112 2113 2114 2115 2116 2117 2118 2119 2120 2121 2122 2123 2124 2125 2126 2127 2128 2129 2130 2131 2132 2133 2134 2135 2136 2137 2138 2139 2140 2141 2142 2143 2144 2145 2146 2147 2148 2149 2150 2151 2152 2153 2154 2155 2156 2157 2158 2159 2160 2161 2162 2163 2164 2165 2166 2167 2168 2169 2170 2171 2172 2173 2174 2175 2176 2177 2178 2179 2180 2181 2182 2183 2184 2185 2186 2187 2188 2189 2190 2191 2192 2193 2194 2195 2196 2197 2198 2199 2200 2201 2202 2203 2204 2205 2206 2207 2208 2209 2210 2211 2212 2213 2214 2215 2216 2217 2218 2219 2220 2221 2222 2223 2224 2225 2226 2227 2228 2229 2230 2231 2232 2233 2234 2235 2236 2237 2238 2239 2240 2241 2242 2243 2244 2245 2246 2247 2248 2249 2250 2251 2252 2253 2254 2255 2256 2257 2258 2259 2260 2261 2262 2263 2264 2265 2266 2267 2268 2269 2270 2271 2272 2273 2274 2275 2276 2277 2278 2279 2280 2281 2282 2283 2284 2285 2286 2287 2288 2289 2290 2291 2292 2293 2294 2295 2296 2297 2298 2299 2300 2301 2302 2303 2304 2305 2306 2307 2308 2309 2310 2311 2312 2313 2314 2315 2316 2317 2318 2319 2320 2321 2322 2323 2324 2325 2326 2327 2328 2329 2330 2331 2332 2333 2334 2335 2336 2337 2338 2339 2340 2341 2342 2343 2344 2345 2346 2347 2348 2349 2350 2351 2352 2353 2354 2355 2356 2357 2358 2359 2360 2361 2362 2363 2364 2365 2366 2367 2368 2369 2370 2371 2372 2373 2374 2375 2376 2377 2378 2379 2380 2381 2382 2383 2384 2385 2386 2387 2388 2389 2390 2391 2392 2393 2394 2395 2396 2397 2398 2399 2400 2401 2402 2403 2404 2405 2406 2407 2408 2409 2410 2411 2412 2413 2414 2415 2416 2417 2418 2419 2420 2421 2422 2423 2424 2425 2426 2427 2428 2429 2430 2431 2432 2433 2434 2435 2436 2437 2438 2439 2440 2441 2442 2443 2444 2445 2446 2447 2448 2449 2450 2451 2452 2453 2454 2455 2456 2457 2458 2459 2460 2461 2462 2463 2464 2465 2466 2467 2468 2469 2470 2471 2472 2473 2474 2475 2476 2477 2478 2479 2480 2481 2482 2483 2484 2485 2486 2487 2488 2489 2490 2491 2492 2493 2494 2495 2496 2497 2498 2499 2500 2501 2502 2503 2504 2505 2506 2507 2508 2509 2510 2511 2512 2513 2514 2515 2516 2517 2518 2519 2520 2521 2522 2523 2524 2525 2526 2527 2528 2529 2530 2531 2532 2533 2534 2535 2536 2537 2538 2539 2540 2541 2542 2543 2544 2545 2546 2547 2548 2549 2550 2551 2552 2553 2554 2555 2556 2557 2558 2559 2560 2561 2562 2563 2564 2565 2566 2567 2568 2569 2570 2571 2572 2573 2574 2575 2576 2577 2578 2579 2580 2581 2582 2583 2584 2585 2586 2587 2588 2589 2590 2591 2592 2593 2594 2595 259



Copyright, 1902,
BY
ELLEN H. RICHARDS.

RECEIVED BY
LIBRARY OF CONGRESS

THE DIETARY COMPUTER.

THE aim of this little pamphlet is to familiarize settlement workers and progressive housewives with a few fundamental principles used in making out bills of fare according to food values. Not that the cook's art is not also essential, but that it is another matter. It can make savory these valuable food materials, but it cannot make one pound of potato worth as much for nutrition as one pound of rice, or one pound of sugar or of fat to yield the nitrogen which is found in meats and legumes.

To do this estimating there is needed, 1st, a list of the common food substances used, giving the grams and calories in each pound as bought; 2d, the composition by weight of the dishes made from these food materials, which makes possible, 3d, the food value of each dish. For the cost of the bill of fare is needed, 4th, the prices per pound as purchased, and, 5th, the amounts to be served a definite number of persons (*a*) when it is the chief dish, (*b*) when it is one of several.

To boil down two or three hundred cook-books into twenty pages is doubtless to destroy the peculiar lightness and delicacy of aroma and to replace it by a dark thick mass which at first sight may have little attractiveness.

And yet many gallons of light-colored foamy cider are boiled down to make one of the dark thick syrup which the old New England housewife used to such good advantage during the long cold winter in flavoring the otherwise monotonous diet.

It was material at hand, and it served her purpose in the days when one small case held her spices and flavorings.

This little pamphlet is just a makeshift like boiled cider, concentrated essence of something more delicate, to be used with judgment and discretion as a wire fence to guide the learner to better sources.

The final object of food is nutrition, and it will do no harm to call attention to the food value of some of the common dishes as found on our tables without obscuring this value by the fancy garnishings or many handlings so common in the modern recipes.

This is no new cook-book, it is only a bald statement of a few facts to help those who really wish to learn. The dishes are therefore arranged in order of food values, and the combinations are made so as to approximate the standard ration. That the same food value is obtained at varying cost is evident, and it should be a simple matter to choose that set of combinations which will suit the purse.

That these combinations might be almost infinitely extended goes without saying. With the aid of any cook-book which gives quantities the dishes in each section may be increased tenfold or one hundred fold. The great difficulty is to find a recipe to quote. A cupful as used in one book means three and one-half ounces, in another four ounces. A tablespoonful of butter in the majority of cook-books consulted means one ounce, in the cooking-school recipes of modern date it means one-half an ounce. In some books three teaspoonfuls equal one tablespoonful, in others four. In many books we do not know what the measures stand for, hence these recipes have that delightful indefiniteness which is supposed to be characteristic of good cookery.

The list of food values in a pound of the different substances on pages 44 to 49 is taken from Bulletin No. 28, revised edition, Office of Experiment Stations, Department of Agriculture, 1899. These figures are in most cases the result of several analyses of products found in American markets, and while no

one claims that they represent the exact food value of the housewife's purchase, they are approximate and may serve as guide-posts to point out her road to a better understanding of the various foods which she furnishes to her family.

The recipes are not warranted to succeed the first time trying, but at least, if variations are necessary, the cook will know whether she is increasing or decreasing the food value, which is the chief thing. Having once had her measuring dishes and spoons standardized, she can keep them for such uses without weighing each time. Any apothecary can give the weight measured by a given cup or spoon, and the dealers in kitchen utensils will provide standard measures just as soon as they are called for. Those at present in the market, even the tin measuring-cups, are not often made with sufficient care.

It was at first intended to give credit to each cook-book for the recipes quoted, but the necessity of assuming weights, where none were given, in some part of nearly every recipe, deterred the author from incurring the just wrath of the cooks.

The success of a dish depends upon three things: 1st. The tastes and habits of the persons before whom it is set; in other words, flavor, consistency, and seasoning must be adapted to the whims of the eaters. 2d. The care and cleanliness with which the ingredients are prepared and the judgment with which they are put together and cooked. 3d. The attractiveness with which the cooked food is served; this includes temperature, quantity, color, form, and arrangement.

"Home cooking" means the peculiar combinations which suit the particular group catered for.

"Proteid" means that which furnishes new material to take the place of that used up in the wear and tear of the active parts of the organism, as well as that which is essential to the building of new tissue. Hence the growing child needs more in proportion to its body weight than an adult. "Fat" and "carbohydrate" (starch, sugar, etc.) contain no nitrogen and therefore cannot take the place of proteid, but

they may to a certain extent replace each other, especially in adult life.

DIETARY ESTIMATES, BASED ON FOOD AS PURCHASED.

Per Day.	Proteid.	Fat.	Carbo- hydrates.	Calories.
	Grams.	Grams.	Grams.	
Man at hard labor.....	150	150	500	4060
Man at light labor.....	125	125	400	3310
Woman at light labor.....	100	100	320	2650
Child of nine years.....	78	45	280	1890

Americans take far more fat in proportion to carbohydrate than any other nation. They are more active. Whether their activity follows from the use of fat is not known, only suspected. Grease-traps must be made to yield their secrets before this can be determined.

Calorie is a unit measure of heat used to denote the energy-giving power of food.

Table II is a list of the total food values and estimated cost of the recipes given in Table V, arranged in order of food value.

Table III gives the same list arranged in order of cost per 1,000 calories.

Table IV gives the same list arranged in order of cost per 100 grams of nitrogenous substance.

In order to plan a dietary of a given composition at a given cost it is necessary to know :

1st. The approximate composition of the food-materials to be used (Table VII). These data vary as our knowledge increases, and can never be more than approximations within somewhat wide limits.

2d. The amount of food materials entering into the composition of each dish. Table V (Recipes). *Only in case this is known* can the food values be computed for Table II. In order to know this it is necessary to have :

3d. Definitions and equivalents of weights and measures.

Those used in this compilation are given in Table VI. At present pounds and ounces are kept ; it is hoped that in a few years all recipes may be given in grams.

4th. The cost per pound is to be filled in, in the blank columns of Table VII, by the user.

It is not always necessary or wise to so plan the food that on each day of the week an exact proportion of the various constituents be maintained, but each week's total should be nearly the theoretical amount. It must be understood, however, that as yet we know too little of the effect on digestibility, of cooking, and of the combination of two or more foods in one dish, or at one meal, to permit of very close calculation.

Individual bodily condition also affects food utilization to an unknown extent, so that no one can rely on mathematical calculations of food quantities without at the same time taking careful record of bodily weight and efficiency.

Various other facts are needed before reliable estimates can be made ; such as wastes in preparation, losses in cooking, in serving, and in the portions taken away with the plates.

In an appendix will be found a table of interchangeable weights and measures.

TABLE I.
CONSTANTS.

Name of Dish.	No. of Recipe.	Cost, Cents.	Proteid.	Fat.	Carbo-hydrate	Calories
			Grams.	Grams.	Grams.	
Coffee, milk, and sugar.....	<i>a</i>	3.9	6	7	65	353
“ cream, and sugar.....	<i>b</i>	7.7	2	11	60	360
Tea, cream, and sugar.....	<i>c</i>	6.7	2	6	59	317
Cereal, milk, and sugar.....	<i>d</i>	7.4	26	16	196	1060
Cereal and cream.....	<i>e</i>	16	24	53	131	1130
Bread and butter, No. 1....	<i>f</i>	2.5	10	25	60	522
“ “ “ No. 2.....	<i>g</i>	7.5	32	75	179	1566
Day's supply of bread and butter, milk and sugar....	<i>h</i>	21	79	144	721	4620
Oranges, 6 large, 3 lbs.....	<i>i</i>	10	8	1	115	510
Bananas, 2 lbs.....	<i>j</i>	5	7	3	129	600
Strawberries, 1½ lbs.; sugar, 4 oz.....	<i>k</i>	30.7	6	4	161	726
Prunes (dry, 6 oz.); sugar, 2 oz.....	<i>l</i>	4.8	3	.....	158	662
Dried apple, ¼ lb.; sugar, 4 oz.	<i>m</i>	4.2	2	4	161	702
Fresh apples, 2 lbs.; sugar, 7 oz.....	<i>n</i>	8.4	4	3	315	1339
Peanuts, 1 lb., shelled.....	<i>o</i>	6	113	172	108	2560

TABLE 1: CONSTANTS.

CONSTANTS.

Name of Dish.		Ounces.	Cost.	Proteid.	Fat.	Carbo- hydrate	Calories
Coffee	} a {	1	2	Grams.	Grams.	Grams.	
Milk		6	1.2	5.6	6.8	8.5	121
Sugar		2	.7	.....	.....	56.7	232
			3.9	5.6	6.8	65.2	353
Coffee	} b {	1	2				
Cream		3	5	2.6	11	3	128
Sugar		2	.7	.....	.....	56.7	232
			7.7	2.6	11	59.7	360
Tea	} c {	0.5	2				
Cream		2	4	1.6	6.6	2	85
Sugar		2	.7	.....	.....	56.7	232
			6.7	1.6	6.6	58.7	317
Cereal	} d {	6	5	19	7.5	127.5	668
Milk		8	1.7	7.5	9	11.3	161
Sugar		2	.7	.....	.....	56.7	232
			7.4	26.5	16.5	195.5	1061
Cereal	} e {	6	5	19	7.5	127.5	668
Cream (thick)		6	11	4.5	45.7	4.5	462
			16	23.5	53.2	132	1130
Bread } No. 1	} f {	4	1	10.8	1.3	59.7	301
Butter }		1	1.5	.....	23.7	.....	221
			2.5	34.3	25	59.7	522
Bread } No. 2	} g {	12	3	32.4	4	179	903
Butter }		3	4.5	.....	71.1	.....	663
			7.5	32.4	75.1	179	1566
Day's supply of bread, butter, milk, and sugar :	} h {						
Bread		1 lb. 8 oz.	6	64	8	358	1806
Butter		5 oz.	7.5	.....	118.5	.....	1185
Milk		1 lb.	3.5	15	18	22.7	323
Sugar		12 oz.	4	.....	.....	340.2	1392
			21	79	144.5	720.9	4626

TABLE II.

DISHES CONTAINING MEAT—IN ORDER OF FOOD VALUE
EXPRESSED IN CALORIES.

Name of Dish.	No. of Recipe.	Cost, Cents.	Proteid.	Fat.	Carbo-hydrate	Calories
			Grams.	Grams.	Grams.	
Scrapple (Philadelphia).....	1	15	100	554	340	6925
Irish stew and dumplings...	2	34.5	190	427	510	6805
Veal croquettes.....	3	47.5	360	353.6	346	6164
Salt pork in butter.....	4	16	171	620	35	5975
Baked beans and brown bread	5	19.3	152	191	803	5675
Beefsteak pot-pie, suet crust.	6	40	237	260	561	5354
Lamb chops, baked potatoes, bread and butter.....	7	69	190	372	258	5284
"Boiled dinner".....	8	48	272	280	366	5187
Bonnar stew, baking powder biscuit.....	9	47.8	275	141	664	5160
Roast heart, stuffed with veg- etables.....	11	28.5	279	272	310	4900
Beefsteak, top of sirloin, 2 lbs.	12	56	121	334	.....	4060
Meat and bean stew.....	13	55	314	180	234	3955
Mutton roast, 3 lbs.....	14	42	162	350	.....	3920
Rump steak, stuffed and rolled	15	52	273	126	311	3915
Brown curry stew, with rice..	16	49	281	175	222	3715
Beef, rib roast, 3 lbs.....	17	75	189	288	.....	3465
Beefsteak, baked potatoes, bread and butter.....	18	61.5	210	166	223	3407
Veal, stuffed and roasted....	19	41	276	196	127	3262
Shepherd's pie, potato crust..	20	38.4	283	162	114	3146
Braised beef, No. 1.....	21	56.1	263	202	26	3097
Beef-shank stew.....	25	28.4	323	102	244	2770
Marrow dumplings for soups.	26	12.5	41	232	90	2727
Liver, 2 lbs.; bacon, 8 oz....	27	15.0	218	186	.....	2690
Mock duck.....	28	43.0	175	154	63	2425
Corned-beef hash.....	29	14.5	81	161	133	2375
Corned beef and cream on toast.....	30	19.5	89	158	121	2343
"Tenderloin cutlet".....	31	26.0	171	168	.....	2264
	32					
Pork chops.....	33	20.0	95	188	19	2217
Turkish pilau.....	34	27.0	208	57	196	2187
Fricassee of veal.....	35	27.0	182	122	44	2071
Tripe fried in butter.....	36	18.0	119	134	66	2013
Beef roll.....	37	22.0	123	135	48	1966
Stewed kidneys on toast....	38	17.0	169	93	140	1923
Stewed sheep's hearts.....	39	15.0	151	114	20	1877
Broiled chicken, 4 lbs.....	40	104.0	268	67	.....	1742
Creamed dried beef.....	41	13	94	97	27	1404
Ham omelet.....	42	21	87	75	4	1182

TABLE II: FOOD VALUES EXPRESSED IN CALORIES.

FISH DISHES AND SOUPS.

Name of Dish.	No. of Recipe.	Cost, Cents.	Proteid.	Fat.	Carbo-hydrate	Calories
			Grams.	Grams.	Grams.	
Clam chowder.....	50	23.6	67	177	187	2707
Fish chowder.....	51	29.8	166	87	215	2359
Split-pea soup.....	52	6.6	62	91	165	1786
Potato soup.....	53	14.5	26	32	171	1729
Boiled salmon, with peas, egg sauce.....	54	40.6	94	119	52	1724
Smoked herring on toast....	55	14	114	54	119	1480
Cream of green-pea soup....	56	23.7	47	71	109	1323
Tomato soup.....	57	11	25	88	79	1103
Consommé.....	58	15.5	28	1	3	136

CHEESE DISHES AND EGG DISHES.

Baked rice and cheese.....	60	13	79	87	242	2129
English monkey on toast....	61	13.1	79	67	269	2059
Baked macaroni and cheese..	62	16	66	101	176	1850
Cheese pudding.....	63	13	80	93	127	1636
Dropped egg on toast.....	64	17.5	67	83	127	1567
Baked custard.....	65	15.5	59	57	126	1304
Swiss sandwiches.....	66	9.2	33	52	127	1011
Baked crackers and cheese..	67	6.5	31	56	87	1009
Cheese omelette.....	68	12	69	71	11	999

BREADS AND MISCELLANEOUS DISHES.

Rice griddle-cakes, with molasses.....	70	10.6	87	52	528	2994
Corn bread.....	71	10.7	80	64	468	2850
Brown bread.....	72	11.2	83	24	515	2685
Baking-powder biscuit.....	73	9.8	75	55	442	2638
Old New England corn bread	74	4.4	37	119	314	2535
White bread, 2 lbs., home-made.....	75	5	86	11	478	2400
Molasses cookies, $\frac{1}{2}$ recipe..	76	7.3	41	55	347	2092
Corn mush, with maple syrup	77	6.2	25	63	294	1893
Doughnuts, $\frac{1}{2}$ recipe.....	78	4.3	35	32	321	1760
Maryland biscuit.....	79	4	36	74	222	1710
Cracker toast.....	80	7	37	53	209	1485
Graham muffins.....	81	4.3	45	17	264	1471
Pie-crust for one pie.....	82	3.6	13	114	84	1666
Rice croquettes.....	83	11.7	42	52	192	1352
Potato chips, $\frac{1}{2}$ lb.....	84	2.5	17	80	115	1290
Mayonnaise for salads.....	85	13	9	129	3	1250
Potato cakes.....	86	7	36	16	125	1217
Lima beans, fresh, 2 lbs....	87	10	64	6	200	1140
Candied sweet potatoes.....	88	6	8	50	160	1132
Bread dice, $\frac{1}{2}$ lb., fried; 2 oz. fat.....	89	3.5	22	59	120	1130

BREADS AND MISCELLANEOUS DISHES.

Name of Dish.	No. of Recipe.	Cost, Cents.	Proteid.	Fat.	Carbo-hydrate	Calories
			Grams.	Grams.	Grams.	
French dressing for salads; 4. oz. oil.....	90	8	.....	113	.....	1050
Escalloped tomatoes.....	91	8.2	22	30	108	776
Fresh green peas, 3 lbs.....	92	12	30	4	109	765
Mashed potato.....	93	5	16	29	107	749
Lyonnaise potatoes.....	94	2.2	8	29	70	595
Potato salad.....	95	5	13	19	82	503
Beets, 2 lbs.....	96	4	12	9	70	340
Cabbage, 2 lbs.....	97	3	16	2	44	250

PUDDINGS AND DESSERTS.

Date pudding.....	100	12	62	165	810	5109
Blueberry pudding, with hard sauce.....	101	20	38	152	780	4759
Suet pudding, with clear sauce	102	9.6	63	187	651	4750
Fig pudding, with vinegar sauce.....	103	20.7	49	107	433	3935
Mince pie, 9-inch, home-made	104	17	55	182	479	3882
Short-cake, filled.....	105	22	82	95	574	3595
Plum pudding, No. 1.....	106	11	82	18	728	3488
Jam rolls.....	107	13.7	87	17	697	3357
Brown-betty, hard sauce....	108	21.4	49	150	662	3285
Bread-and-butter.....	109	14	77	56	499	3108
Apple pie, 9-inch.....	110	13	17	165	344	3031
Chester-pudding.....	111	13	50	103	439	2723
Apple tarts.....	112	8	54	7	558	2580
Plum pudding, No. 2.....	113	21	58	104	306	2470
Indian-pudding, $\frac{1}{2}$ recipe....	114	17	65	55	410	2446
Tapioca pudding, No. 1....	115	13	34	60	434	2439
Rice pudding, No. 1.....	116	15.2	54	60	401	2427
Ice-cream, home-made.....	117	29.4	35	153	203	2400
Sponge-cake, 1 lb.....	118	20	29	43	318	1830
Indian-pudding without eggs	119	10.2	42	48	281	1822
Tapioca pudding, No. 2....	120	11.6	11	41	102	1268
Creamy rice pudding.....	121	7.8	28	2	231	1082
Corn-starch pudding.....	122	5.5	15	18	191	1020

SAUCES.

Hard sauce.....	125	5.7	.....	35	113	795
Vinegar or lemon sauce.....	126	2.8	2	23	123	736
Maple syrup, 8 oz.....	127	6	.....	.....	158	653
Clear sauce.....	128	1.2	.....	.....	108	441
Fruit sauce.....	129	5	13	.....	80	381
Molasses, dark, 4 oz.....	130	.8	.....	.....	80	328

TABLE III.

DISHES CONTAINING MEAT ARRANGED IN ORDER OF COST OF 1,000 CALORIES, BEGINNING WITH THE LOWEST.

FOR ONE PERSON 3,000 CALORIES PER DAY IS THE USUAL ALLOWANCE.

No. of Recipe.	Name of Dish.	Cost of 100 Grms. Nitrogenous Substance.	Cost of 1,000 Calories.
		Cents.	Cents.
1	Scrapple.....	15	2.16
4	Salt pork in batter.....	9.3	2.68
5	Baked beans and brown bread.....	13	3.5
26	Marrow dumplings for soup.....	1.13	4.5
2	Irish stew and dumplings.....	18	5.07
27	Liver and bacon.....	6.8	5.5
11	Roast heart, stuffed.....	7.5	5.8
29	Corned beef hash.....	17.9	6.1
6	Beefsteak pot-pie.....	17	7.46
3	Veal croquettes.....	13.2	7.7
30	Corned beef and cream on toast.....	21.9	8.3
39	Stewed sheep's hearts.....	10	8
38	Stewed kidney on toast.....	10	8.8
41	Creamed dried beef.....	13.8	9
36	Tripe fried in batter.....	15.1	9
33	Pork chops.....	21	9
8	Boiled dinner.....	17.6	9.2
7	Lamb chops, etc.....	30.6	9.26
25	Beef-shank stew.....	8.8	10.3
14	Roast mutton.....	25.9	10.8
37	Beef roll.....	18	11.2
31	Tenderloin cutlet.....	15.2	11.5
20	Shepherd's pie.....	13.6	12.2
34	Turkish pilau.....	13	12.4
19	Veal, roast, stuffed.....	14.9	12.6
16	Brown curry stew, with rice.....	16.8	12.6
35	Fricassee of veal.....	14.8	13
9	Bonnar stew.....	17.3	13.1
15	Rump steak, stuffed.....	19	13.3
12	Beef, roast, top of sirloin.....	46.5	13.8
13	Meat and bean stew.....	17.5	14.1
28	Mock duck.....	24.5	17.7
42	Ham omelette.....	24.1	18
18	Beafsteak, bread, butter, and potatoes.....	29.3	18
21	Braised beef, No. 1.....	21.3	18.1
17	Beef rib. roast.....	40	21.7
22	Braised beef, No. 2.....	28	23.5
41	Broiled chicken.....	38.8	60

FISH DISHES AND SOUPS.

No. of Recipe.	Name of Dish.	Cost of 100 Grms. Nitrogenous Substance.	Cost of 1,000 Calories.
		Cents.	Cents.
52	Split-pea soup.....	10.6	3.7
53	Potato soup.....	55.8	8.3
50	Clam chowder.....	35	8.7
55	Smoked herring on toast.....	12.2	9.4
57	Tomato soup.....	44	9.7
51	Fish chowder.....	18	12.6
56	Cream of green-pea soup.....	50.4	17.9
54	Boiled salmon, with egg sauce.....	43.2	23.5
58	Consommé.....	55.4	114

CHEESE DISHES AND EGG DISHES.

60	Baked rice and cheese.....	16.4	6.1
61	English-monkey on toast.....	16.6	6.3
67	Baked crackers and cheese.....	21	6.4
63	Cheese pudding.....	16.2	7.9
66	Swiss sandwiches.....	28	8.1
62	Baked macaroni and cheese.....	24.2	8.2
64	Dropped eggs on toast.....	26.1	11.1
65	Baked custard.....	26.2	11.8
68	Cheese omelet.....	17.4	12

BREADS AND MISCELLANEOUS DISHES.

74	Old New England corn bread.....	12	1.7
84	Potato chips, $\frac{1}{2}$ lb.....	14.7	1.9
75	White bread, 2 lbs., home made.....	5.8	2.1
82	Pie-crust for one pie.....	27.7	2.2
79	Maryland biscuit.....	11.1	2.3
78	Doughnuts, $\frac{1}{4}$ recipe.....	12.3	2.4
81	Graham muffins.....	9.5	2.9
89	Bread dice, fried.....	16.0	3.1
77	Corn mush, maple syrup.....	24.8	3.3
70	Rice griddle cakes.....	12.2	3.5
76	Molasses cookies.....	17.8	3.5
73	Baking-powder biscuit.....	13.0	3.7
94	Lyonnaise potatoes.....	27.5	3.7
72	Corn bread.....	14.7	3.9
71	Brown bread.....	13.4	4.0
80	Cracker toast.....	19.0	4.7
88	Candied sweet potatoes.....	75.0	5.3
86	Potato cakes.....	20.0	5.7
93	Mashed potato.....	31.2	6.6
90	French dressing.....	.....	7.6

TABLE III: COST OF 1,000 CALORIES OF VARIOUS DISHES. 13

BREAD AND MISCELLANEOUS DISHES.

No. of Recipe.	Name of Dish.	Cost of 100 Grms. Nitrogenous Substance.	Cost of 1,000 Calories.
		Cents.	Cents
83	Rice croquettes.....	28.0	8.6
87	Lima beans, fresh.....	15.5	8.8
95	Potato salad.....	38.5	9.0
85	Mayonnaise for salads.....	144.4	10.4
91	Escalloped tomatoes.....	37.3	10.6
96	Beets, 2 lbs.....	33.3	11.8
97	Cabbage, 2 lbs.....	18.7	12.0
92	French green peas.....	40.0	15.8

PUDDINGS AND DESSERTS.

102	Suet pudding, with clear sauce.....	15.2	2
100	Date pudding.....	19.3	2.3
106	Plum pudding, No. 1.....	13.4	3.1
112	Apple tarts.....	14.8	3.1
101	Blueberry pudding and sauce.....	52.7	4.2
110	Apple pie.....	76.5	4.2
109	Bread-and-butter pudding.....	18.2	4.3
104	Mince pie.....	30.9	4.3
107	Jam rolls.....	15.8	4.8
111	Chester pudding.....	26	4.8
115	Tapioca pudding.....	38.2	5.3
103	Fig pudding and sauce.....	42.2	5.3
122	Cornstarch pudding.....	36.6	5.4
119	Indian-pudding, without eggs.....	24.3	5.6
105	Short-cake, filled.....	26.8	6.1
116	Rice pudding.....	28.1	6.2
108	Brown-betty.....	43.8	6.5
114	Indian-pudding.....	26.1	6.9
121	Creamy rice pudding.....	27.7	7.2
113	Plum pudding, No. 2.....	36.2	8.5
120	Tapioca pudding, No. 2.....	105	9.1
118	Sponge-cake, 1 lb.....	68.9	10.9
117	Ice-cream, home-made.....	84	12.2

TABLE IV.

DISHES CONTAINING MEAT ARRANGED IN ORDER OF COST OF 100 GRAMS OF NITROGENOUS SUBSTANCE, BEGINNING WITH THE LOWEST.

FOR ONE ADULT PERSON PER DAY 100 GRAMS IS THE LOWEST AMOUNT TO BE ALLOWED.

No. of Recipe.	Name of Dish.	Cost of 1,000 Calories.	Cost of 100 Grms. Nitrogenous Substance.
		Cents.	Cents.
27.	Liver and bacon	5.5	6.8
11	Roast heart, stuffed.....	5.8	7.5
25	Beef shank stew.....	10.3	8.8
4	Salt pork in butter.....	2.68	9.3
30	Stewed sheep's hearts.....	8.3	10
38	Stewed kidney on toast.....	8.8	10
5	Baked beans and brown bread.....	3.5	13
34	Turkish pilau	12.4	13
3	Veal croquettes.....	7.7	13.2
20	Shepherd's pie	12.2	13.6
41	Creamed dried beef.....	9	13.8
35	Fricassee of veal.....	13	14.8
19	Veal roast, stuffed.....	12.6	14.9
1	Scrappe.....	2.16	15
36	Tripe fried in batter.....	9	15.1
31	Tenderloin cutlet.....	11.5	15.2
16	Brown curry stew.....	12.6	16.8
6	Beefsteak pot-pie.....	7.46	17
9	Bonnar stew.....	13.1	17.3
13	Meat and bean stew.....	14.1	17.5
8	Boiled dinner.....	9.2	17.6
29	Corned beef hash.....	.....	17.9
37	Beef roll.....	11.2	18
2	Irish stew.....	5.07	18
15	Rump steak, stuffed.....	13.3	19
33	Pork chops.....	9	21
21	Braised beef, No. 1.....	18.1	21.3
30	Corned beef on toast.....	8.3	21.9
42	Ham omelet.....	18	24.1
28	Mock duck.....	17.7	24.5
14	Mutton roast.....	10.8	25.9
22	Braised beef, No. 2.....	23.5	28
18	Beefsteak, bread, butter, and potatoes.....	18	29.3
7	Lamb chops, etc.....	9.26	30.6
41	Broiled chicken	60	38.8
17	Beef rib roast.....	21.7	40
12	Beef, top of sirloin, roast.....	13.8	45.5
26	Marrow dumplings.....	4.5	113

TABLE IV: COST OF 100 GRAMS OF NITROGENOUS SUBSTANCE. 15

FISH DISHES AND SOUPS.

No. of Recipe.	Name of Dish.	Cost of 1,000 Calories.	Cost of 100 Grms. Nitrogenous Substance.
		Cents	Cents.
52	Split-pea soup.....	3.7	10.6
55	Smoked herring on toast.....	9.4	12.2
51	Fish chowder.....	12.6	18
50	Clam chowder.....	8.7	35
54	Boiled salmon, with egg sauce.....	23.5	43.2
57	Tomato soup.....	9.7	44
56	Cream of green-pea soup.....	17.6	50.4
58	Consommé.....	11.4	55.4
53	Potato soup.....	8.3	55.8

CHEESE DISHES AND EGG DISHES.

63	Cheese pudding.....	7.9	16.2
60	Baked rice and cheese.....	6.1	16.4
61	English-monkey on toast.....	6.3	16.6
68	Cheese omelet.....	12.0	17.4
67	Baked crackers and cheese.....	6.4	21
62	Baked macaroni and cheese.....	8.2	24.2
64	Dropped eggs on toast.....	11.1	26.1
65	Baked custard.....	11.8	26.2
66	Swiss sandwiches.....	8.1	28

BREADS AND MISCELLANEOUS DISHES.

75	White bread, 2 lbs., home-made.....	2.1	5.8
81	Graham muffins.....	2.9	9.5
79	Maryland biscuit.....	2.3	11.1
74	Old New England corn bread.....	1.7	12.0
70	Rice griddle-cakes.....	3.5	12.2
78	Doughnuts, $\frac{1}{2}$ recipe.....	2.4	12.3
73	Baking powder biscuit.....	3.7	13.0
71	Brown bread.....	4.0	13.4
84	Potato chips, $\frac{1}{2}$ lb.....	1.9	14.7
72	Corn bread.....	3.9	14.7
87	Lima beans, fresh.....	8.8	15.5
89	Bread dice, fried.....	3.1	16.0
76	Molasses cookies.....	3.5	17.8
97	Cabbage, 2 lbs.....	12.0	18.7
80	Cracker toast.....	4.7	19.0
86	Potato cakes.....	5.7	20.0
77	Corn mush, maple syrup.....	3.3	24.8
94	Lyonnaise potatoes.....	3.7	27.5
82	Pie-crust for one pie.....	2.2	27.7

BREADS AND MISCELLANEOUS DISHES.

No. of Recipe.	Name of Dish.	Cost of 1,000 Calories.	Cost of 100 Grms. Nitrogenous Substance.
83	Rice croquettes.....	Cents. 8.6	Cents. 28.0
93	Mashed potatoes.....	6.6	31.2
96	Beets, 2 lbs.....	11.8	33.3
91	Escalloped tomatoes.....	10.6	37.3
95	Potato salad.....	9.0	38.5
92	Green peas, fresh.....	15.8	40.0
88	Candied sweet potato.....	5.3	75.0
85	Mayonnaise for salads.....	10.4	144.4

PUDDINGS AND DESSERTS.

106	Plum pudding.....	3.1	13.4
112	Apple tarts.....	3.1	14.8
102	Suet pudding, with clear sauce.....	2	15.2
107	Jam rolls.....	4.8	15.8
109	Bread-and-butter pudding.....	4.3	18.2
100	Date pudding.....	2.3	19.3
119	Indian-pudding, without eggs.....	5.6	24.3
111	Chester-pudding.....	4.8	26
114	Indian-pudding.....	6.9	26.1
105	Short-cake, filled.....	6.1	26.8
121	Creamy rice pudding.....	7.2	27.8
116	Rice pudding.....	6.2	28.1
104	Mince pie.....	4.3	30.9
113	Plum pudding, No. 2.....	8.5	36.2
122	Cornstarch pudding.....	5.4	36.6
115	Tapioca pudding.....	5.3	38.2
103	Fig pudding, with sauce.....	5.3	42.2
108	Brown-betty.....	6.5	43.8
101	Blueberry pudding.....	4.2	52.7
118	Sponge cake, 1 lb.....	10.9	68.9
110	Apple pie.....	4.2	76.5
117	Ice-cream.....	12.2	84
120	Tapioca pudding, No. 2.....	9.1	105

TABLE V.

RECIPES.

(Quantities are estimated for six persons.)

NO. 1. SCRAPPLE. PHILADELPHIA STYLE.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
One-half pig's head.	3	.....	12	60	544	.....	5270
Corn meal	1	.....	3	40.4	10	340.6	1655
			15	100.4	554	340.6	6925

Clean the pig's head. Put in a stew-pan with 2 qts. hot water. Let it simmer for 3 hours. Take out of the liquor and cool. When cold remove the bones and chop the meat fine. Add 2 teaspoonfuls of salt, $\frac{1}{2}$ teaspoonful of pepper, 2 leaves of sage. Put into the liquor and return to the fire. When the liquor begins to boil sprinkle in the meal with quick stirring. Cook for 2 hours without burning. Cool in a deep pan. For use, cut slices, roll in flour or bread-crumbs, fry until brown.

NO. 2. IRISH STEW WITH DUMPLINGS.

Simmer the meat 2 hours, add the vegetables and seasoning; then heat to boiling; add the dumplings.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Mutton	2	.....	24	107.8	232.0	.....	2610
Potatoes	2	.....	3	16.2	8.0	138.8	650
Carrot and turnip	1	.....	2	4.1	1.3	33.6	170
Dumplings							
Suet	$\frac{1}{2}$	.....	3	10.9	181.2	.....	1730
Flour	1	.....	2.5	51.2	5.0	338.3	1645
			34.5	190.2	427.5	510.7	6805

NO. 3. VEAL CROQUETTES.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Veal	3	8	30	294	79	.....	1940
Salt pork		4	2	4	102	.....	965
Butter		1	1.5	.....	23.7	.....	221
Rice (dry)		8	4.0	23	.5	190	875
Eggs		4	4	15	11	.....	161
Cracker crumbs ..		8	4	24	24	156	947
Fat taken up in cooking		4	2	.....	113.4	.....	1055
			47.5	360	353.6	346	6164

NO. 4. SALT PORK IN BATTER.

Cut the pork in thin slices, drop into boiling water for 2 minutes, drain, cook a delicate brown in a frying-pan 5 minutes. Take out the slices, dip in the batter made of the flour, salt, milk, and egg. Cook brown in the hot fat. Serve at once.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Pork.....	1½	.....	12	156.4	611.5	.....	5725
Flour.....	.....	1½	.17	4.6	.4	30.4	148
Milk.....	.....	3	2	3	3.3	4.3	20
Egg (1).....	.....	2	2	7.4	5.2	.....	81
Salt, ¼ teaspoon..	.....	.....	.....	.....	.....	.....	.....
			16.2	171.4	620.4	34.7	5974

NO. 5. BAKED BEANS. NEW ENGLAND STYLE.

Soak the washed beans overnight in 3 qts. water. Drain and wash. Put them in a stew-pan with plenty of cold water. Bring to a boiling heat and cook until the skin will break, not a moment longer. Put half the beans into the bean-pot, then the pork; the scored rind comes just to the top of the pot. Fill in with the beans. Add the seasonings. Fill the pot with boiling water. Many cooks prefer to use the water the beans were boiled in. Bake for 10 hours, filling up as necessary.

NO. 5a. BROWN BREAD.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Corn meal.....	.....	5.3	.8	13.2	3.3	112	510
Rye meal.....	.....	5.3	.7	10	2.0	109	480
Flour.....	.....	8	1.2	25.6	2.5	169.6	822
Sour milk.....	1	8	5.0	22	24.0	35.0	487
Soda.....	.....	0.5	.6	.....	.....	.....	.....
Salt.....	.....	0.5	.....	.....	.....	.....	.....
Molasses.....	.....	8	2.0	.....	.....	157.2	645
			10.3	70.8	31.8	582.8	2944

NO. 5b. BAKED BEANS.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Beans.....	12	6	75.6	6	201	1203
Molasses.....	1	.2	.....	.....	19	81
Pork, salt, fat.....	6	3.0	6	153	.....	1447
Salt.....25	.3	.....	.....	.....	.....
Soda (pinch).....
Mustard ".....
			9.5	81.6	159	220	2731

NO. 6. BEEFSTEAK POTPIE, SUET CRUST.

Season the meat with the salt and pepper, put this into a pot with the butter, onion, and water. Cover, steam slowly one hour. Boil the potatoes, cut in quarters, add the salt and enough water to make a dough. Line a deep baking-dish, fill with meat and gravy, cover with rest of dough and bake one hour. Put paper funnel in centre as a vent.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Beef, 2d cut round	2	.....	30	149	62	.....	1187
Butter.....	.....	1	1.5	... ..	23.7	.....	221
Potatoes.....	2	.....	4.0	16	1	139	620
Flour.....	1	4	.6	64	6	422	2010
Suet.....	.....	6	2.0	8.4	168	.....	1326
			38.1	237.4	260.7	561	5364

NO. 7. LAMB CHOPS, BAKED POTATOES, BREAD AND BUTTER.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
12 chops.....	2.5	.....	60	153	321	.....	3612
Potatoes.....	2.0	.....	4	16.2	.8	139.8	620
Bread.....	.5	.....	2.5	21.5	2.7	118.5	602
Butter.....	.....	2	3	.....	48.4	.....	450
			69.5	190.7	372.9	258.3	5284

NO. 8. BOILED DINNER, NEW ENGLAND STYLE.

If the beef is not freshly corned (3 or 4 days), soak it over night; if very hard, change the water several times while boiling. Put the meat into cold water, let it slowly come to the boiling-point, and boil 3 hours. At the end of 2 hours add the vegetables to be used, whether carrots, turnips, parsnips, or cabbage; in another half hour, the potatoes. Take up when they are done. Half the cabbage may be kept raw for cold slaw. The beets, cleaned without breaking the skin, are always cooked separately 2 or 3 hours.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Corned-beef brisket	3	.....	30	195.9	264	.....	3255
Potatoes.....	2	.....	3	16.2	.8	139	647
Beets.....	1	.....	3	5.9	4.5	35	170
Cabbage, turnips, and carrots.....	6	.....	10	48.6	8.4	133	750
Parsnips.....	1	.....	2	5.9	2.3	58	285
			48	272.5	280.0	365	5107

NO. 9. BONNAR STEW (WINTER STEW).

3 lbs. small pieces from leg or neck of beef. Roll in flour until very white, cover with cold water in stew-pan, add salt and pepper. Simmer 5 hours.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Beef from neck or shank.....	3	.....	36	174	99.2	.....	1636
Flour.....		5	.07	17	2	113	552
Potatoes, baked..	1	8	3	12	.6	104	481
Baking - powder biscuit of 1 qt. flour.....		.....	8	72	39	447	2491
			47.1	275	140.8	664	5160

NO. 11. ROAST STUFFED HEART WITH VEGETABLES.

Soak the heart in vinegar and water 3 hours, cut off lobes and gristle, stuff with salt, fat pork chopped fine and the same amount of bread crumbs, a little chopped parsley, a little thyme, pepper and salt. Tie in a cloth and let slowly simmer for 2 hours, the larger end up; then take off cloth, flour, and roast until brown with some pieces of pork over it. Make a gravy by thickening with flour.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Heart.....	3	.....	18	231	103	.....	1896
Salt fat pork.....		6	3	6	153	.....	1447
Crackers.....		4	2	12	12	78	472
Potatoes.....	2	.....	2	16	.8	138	620
Onions.....	1	.....	1	6.8	1.8	40	205
Carrots.....	1	.....	2	4.1	1.3	33	160
Flour.....		1	.15	3.1	.3	21	100
			28.1	279.0	272.2	310	4900

NO. 13. MEAT AND BEAN STEW.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Beef, medium fat	3	.....	45	258.6	174.3	.....	2685
Beans, lima, dried		12	6	54.0	5.1	224	1219
Onions.....		4	4	1.6	.4	10	51
			55	314.2	179.8	234	3955

NO. 15. RUMP STEAK STUFFED AND ROLLED, WITH VEGETABLES.

2 lbs. rump steak (or any lean meat), 2 oz. suet, 4 oz. bread crumbs, 1 dessert-spoon of chopped parsley (6 olives may be added), pepper, salt, 2 eggs. Spread the mixture on the steak, roll and tie, place in greased paper and roast three-fourths of an hour. Cook vegetables separately.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Steak, lean.....	2	.....	32	173.2	99.8	.....	1640
Suet		2	1	2.6	5.6	.....	442
Bread crumbs.....		4	1	11.5	1.4	64	321
Sggs (2).....		4	4	14.5	10.8	.....	161
Salt, pepper							
Lima beans, fresh	2	.....	10	64.4	6.4	199.6	1140
Squash.....	2	.....	4	7.2	2.8	47.2	210
			52	273.4	126.8	310.8	3914

NO. 16. BROWN CURRY STEW, WITH RICE.

Rice cooked separately 20 to 25 minutes in plenty of water to keep it whole. Add curry powder and rice to the cooked meat.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Beef, medium fat.	3	.....	42	258.6	174.3	.....	2685
Rice.....		10	5	22.5	.9	222	1030
Curry		$\frac{1}{8}$	2	.....	.....	.....	.....
			49	281.1	175.2	222	3715

NO. 18. BEEFSTEAK, BAKED POTATOES, BREAD AND BUTTER.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Steak, solid, round	2	.....	50	176.8	66.2	.....	1340
Potatoes.....	$1\frac{1}{2}$	.....	2	12	.6	104	465
Bread.....	.5	.....	2.5	21.5	2.7	118.5	602
Butter.....		4	7	.....	96.8	.....	900
			61.5	210.3	166.3	222.5	3307

NO. 19. ROAST VEAL, STUFFED.

Dredge with salt, pepper, and flour. Stuff with moistened bread crumbs. Put in strips of salt pork over the top. Cover with buttered paper to keep from burning, and allow $\frac{1}{2}$ hour to the pound. Baste. Thicken gravy with 1 tablespoonful flour.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Veal, leg.....	3	.....	37	248.7	90.9	.....	1755
Salt pork.....		4	2	4.1	101.9	.....	965
Bread crumbs.....		8	2	23	3	127	642
			41	275.8	195.8	127	3362

NO. 20. SHEPHERD'S PIE WITH POTATO CRUST.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Cold meat.....	2	.....	30	254	100	.....	1970
1 teaspoonful salt, ¼ teaspoonful pepper, pudding-dish well buttered....	.....	2	4	.....	47.4	.....	441
Stock.....	1	.....	1	15	2	.....	80
Flour.....	.....	.55	.07	2	.....	10	50
Butter, onion....	.....	.55	.7	.....	12	.....	110
Potatoes, boiled and mashed....	1	8	2	12	.6	104	465
			37.7	283	162	114	3116

NO. 21. BRAISED BEEF.

Cut the pork into thin slices, fry brown and crisp. Put the vegetables cut fine into the fat and cook 15 minutes. Rub into the meat 2 teaspoonfuls of salt, ¼ teaspoonful of pepper. Put it into a deep pan or earthen pot. Add the drained vegetables. Brown the flour in the hot fat. Add gradually 1½ pints water, 1 teaspoonful of salt, ¼ teaspoonful of pepper. Cook 5 minutes. Pour over the meat. Cover pan or pot. Cook in slow oven 5 hours. The toughest meat will become tender. If pork is not used, 2 ozs. butter must be added to 2 ozs. dripping to give the flavor required. This increases the cost by 3 cents.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Beef, lean	3	.....	54	255.2	99.3	.....	2010
Pork .....	.....	1	2	4	102	.....	965
Flour.....	.....	1	.15	3	.3	21	100
Onion.....	.....	1	.5	.6	.2	5	22
Carrot.....	.....	1	.5				
			57.1	262.8	201.8	26	3097

NO. 25. BEEF-SHANK STEW.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Beef shank.....	3	.....	24	290	99.3	.....	1635
Potatoes.....	2	.....	2	16.4	.9	133.4	620
Turnips.....	1	.....	2	4.1	.45	25.8	105
Flour.....	.....	4	.6	12.2	1.2	84.8	410
			28.6	322.7	101.9	244.0	2770

NO. 26. MARROW DUMPLINGS FOR SOUPS.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Marrow.....	8	6	5.9	211	.....	1982
Bread crumbs.....	4	1.5	11.1	2	63	321
Milk.....	4	2	3.2	4	5.7	81
Yolks of 4 eggs.....	4	4	18	13.8	.....	243
Flour.....	1	.1	3.2	3	21.1	100
			13.6	41.4	231.1	89.8	2727

NO. 27. FRIED LIVER AND BACON.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Liver.....	2	.....	8	196	50	.....	1330
Bacon.....	.....	8	7	21.7	136	.....	1360
			15	217.7	186	.....	2690

NO. 28. MOCK DUCK.

Mix well together 1 cup bread crumbs seasoned with salt and pepper, 1 tablespoonful melted butter, a little cayenne, $\frac{1}{2}$ teaspoonful of chopped onion; spread on one side of the steak, roll it and fasten with a little skewer. Roast for an hour. Thicken the gravy with one tablespoonful of flour.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Beef round, medium fat.....	2	.....	30	172.4	116.2	.....	1790
Bread crumbs.....	.....	4	1	11.1	2	63	321
Fat.....	.....	1	11	1.5	28.5	.....	264
Chopped onion $\frac{1}{2}$ teaspoon.....	.....	.....	.....	.....	.....	.....	.....
Flour.....	.....	5	.....	1.6	.....	10	50
			42	186.6	146.7	73	2425

NO. 29. CORNED-BEEF HASH.

	Lbs.	Oz.	Cost. Cents.	Proteid. Grams.	Fat. Grams.	Carb. Grams.	Cal.
Corned beef, cooked.....	1	.....	12	64.3	103.4	.....	1225
Potatoes.....	2	.....	2	16.4	.9	133.4	620
Fat.....	.....	2	.5	.....	56.7	.....	527
			14.5	80.7	161.0	133.4	2372

NO. 30. CORNED BEEF AND CREAM ON TOAST.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Corned beef cooked, grated, or chopped.....	1	.....	12	64.3	103.4	.....	1225
Cream, thin.....	.....	2	4	2	8	2	85
Butter (fat).....	.....	2	1	1	47	.....	450
Salt, pepper.....	.....	.....	.....	.....	.....	.....	.....
Bread toasted.....	.....	8	2.5	22	2.7	119.5	603
			19.5	89.3	161.1	121.5	2363

NO. 31. TENDERLOIN CUTLET.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Hamburg steak...	2	.....	24	171	112	.....	1743
Suet or fat.....	.....	2	1	.....	56	.....	521
Worcester or other sauce.....	.....	.....	1	.....	.....	.....	.....
			26	171	168	.....	2264

NO. 33. PORK CHOPS.

Season the chops with one teaspoonful salt and a little pepper. Cook in a hot frying-pan rather slowly for 20 minutes; after taking out the chops stir the flour into the fat, add the strained tomatoes and simmer for 5 minutes. Add a little salt and pepper, and pour the sauce around the chops on a hot dish.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Pork steak.....	1½	.....	18	92	187	.....	2115
Flour.....	.....	½	.....	1.5	.1	10	50
Tomatoes.....	.....	½	2	1.8	.9	8.8	52
			20	95.3	188.0	18.8	2217

NO. 34. TURKISH PILAU.

Cook the rice in the soup stock, add the meat, tomatoes, and seasonings.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Rice.....	.....	8	4	17.6	.8	179	814
Soup stock.....	3	.....	6	60	4	.....	283
Meat cut fine.....	1	.....	15	127	50	.....	985
Tomatoes (fresh).....	1	.....	2	3.6	1.8	17.7	105
			27	208.2	56.6	196.7	2187

NO. 35. FRICASSEE OF VEAL.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal
Veal	2	.....	24	158	45	.....	1110
Fat salt pork.		4	2	7.4	76	.....	735
Flour.....		2	.3	6	.4	40	200
Tomatoes.....		4	1	.9	.4	4.4	26
			27.3	172.3	121.8	44.4	2071

Cut the pork in thin slices and fry brown. Season the thin slices of veal with salt and pepper, roll in the flour, and cook brown. When done put the rest of the flour into the fat. When brown add 1 pint of water, put the veal back, and simmer for half an hour. Add the tomatoes and serve.

NO. 36. TRIPE FRIED IN BATTER.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Tripe.....	2	.....	12	98.8	10.8	.....	520
Drippings.		4	2	.....	113	.....	1055
Flour.		3	.2	9.2	.8	60.8	296
Milk		4	1.8	4	4.4	5.6	61
Egg.....		2	2	7.4	5.2	....	81
			18.0	119.4	134.2	66.4	2013

Cut the washed tripe in small squares and season with salt and pepper. Beat the flour to a smooth paste with the milk, add the eggs well beaten, season with salt and pepper. Dip the tripe in this batter and cook brown in the hot fat.

NO. 37. ROLL OF BEEF.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Cooked beef.....		12	15	95	37.5	.....	739
Bacon or fat ham.....		5	4	15	92	.....	930
Cooked rice or macaroni.....		4	1	5.6	.....	48	216
Egg.....		2	2	7.4	5.2	.....	81
			22	123.0	134.7	48	1966

NO. 38. STEWED KIDNEY ON TOAST.

Cut 3 kidneys into 3, lengthwise; warm 3 tablespoons butter in the frying-pan, before it is hot put in the kidneys, with a teaspoonful minced onion, $\frac{1}{2}$ tea-cup water; 1 cup good gravy. Cover. Simmer gently 15 minutes. Season with pinch mace, nutmeg and pepper, $\frac{1}{2}$ teaspoon salt, and juice of $\frac{1}{2}$ lemon. Take out kidneys. Thicken gravy with 1 tablespoon browned flour. Serve on hot platter with 5 slices of toast.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Kidney	2	.....	12	144	44	.....	1000
Butter		2	3	.....	47	.....	221
Flour		1	.....	3.2	.3	21	100
Bread		8	15	147	91	21	1321
			2	22	2.7	119	602
			17	169.2	93.7	140	1923

NO. 39. STEWED SHEEP'S HEARTS.

Split and wash the hearts, season with pepper and salt, roll in the flour. Fry the pork and onions; take out and put in the hearts. Cook brown on both sides. Take out and put with the pork into a stew-pan. Heat $1\frac{1}{2}$ pints of water in the frying-pan to take up the fat and juice; pour over the hearts; season and cook slowly 3 hours.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Hearts	2	.....	14	144	76	.....	1410
Fat pork		2	1	3.7	38	.....	367
Flour		1	.15	3	.2	20	100
			15.1	150.7	114.2	20	1877

NO. 40. BROILED CHICKEN.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Chicken	4	.....	100	268	20	.....	1300
Butter		2	4	.....	47	.....	442
			104	268	67	.....	1742

NO. 41. CREAMED DRIED BEEF.

Cut the beef in thin shavings; put in a bowl and pour on it 1 pint of boiling water; let stand 2 minutes; then drain dry and cook 3 minutes in the frying-pan with the butter, stirring all the time. Pour in half the milk, mix the flour with the other half and stir in while cooking. Serve in 2 minutes.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Smoked dried-beef	6	5	80	36.7	.....	669
Butter	2	3	1.2	47.2	.....	442
Flour	$\frac{1}{2}$	.07	1 5	.1	10	50
Milk	12	2.3	11 3	13.5	16.9	243
			10.4	94.0	97.5	26.9	1404

NO. 42. HAM OMELETTE.

Separate the whites and yolks of the eggs; to the yolks add the milk, ham chopped fine, a sprig of parsley; beat hard. Stir in gently the whites of the eggs beaten to a stiff froth. Have the butter hot in a spider and pour in the mixture, stirring with a fork until it thickens. Incline the pan and begin to roll. It should be long, thick in the middle, and soft inside. Any cold meat may be used or jellies or fruits.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Ham, cooked	4	4	16	38	.....	418
Eggs (6)	12	14	44.4	33.7	.....	483
Milk	3	.5	3	3.4	4.2	60
Butter	1	1.5	23.7	.....	.....	221
			20.0	87.1	75.1	4.2	1182

NO. 50. CLAM CHOWDER.

Cut the soft parts of the clams from the hard, chop the latter fine, and cook in a stew-pan with the water for 20 minutes. Fry the sliced pork for 10 minutes. Add the sliced onion. Cook 10 minutes. Take both from the pan and add to the clams in the stew-pan. Stir the flour into the fat in the stew-pan, and when smooth add to the clams. Put the cubed potatoes into another stew-pan, strain the hot clam broth over them, season with $\frac{1}{2}$ oz. salt, $\frac{1}{4}$ oz. pepper, and cook for 20 minutes. Split the crackers, soak them in the milk for 4 minutes, add with the soft parts of the clams. Serve as soon as the broth boils up.

	Lbs.	Oz.	Cost	Proteid.	Fat.	Carb.	Cal.
Clams	2	.....	12	27	6	15	230
Milk	1	.....	3	15	18	22.7	325
Water	3	.....				
Potatoes	1	.....	1.5	8	.4	69.4	310
Onions .....	.....	8	1	3.6	.8	20	104
Salt pork .....	.....	4	2	4.1	102	.....	965
Butter .....	.....	2	3	.....	47.4	.....	442
Flour .....	.....	1	.1	3.2	.3	21.1	100
Crackers .....	.....	2	1	6	5	39	231
			23.6	66.9	179.9	187.2	2807

NO. 51. FISH CHOWDER.

The fish chowders may be enriched by salt pork and crackers, and prepared as in clam chowder, or may be made more delicate by cooking the fish—any kind—in water, using whole, milk and butter, adding tomatoes in place of part of the milk, and bread crumbs instead of crackers.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Haddock.....	3	.....	18	114.3	2.7	.....	495
Potatoes.....	1	8	2.2	16	.8	138.8	620
Onion.....		4	.5	1.8	.2	10	52
Butter.....		2	3	.4	47.4	.....	442
Milk.....	2	.....	6	30	36	45.4	650
Flour.....		1	.1	3.2	.3	21.1	100
			29.8	165.7	87.4	215.3	2359

NO. 52. SPLIT-PEA SOUP.

Soak the peas over night, and cook eight hours. A great variety is possible in these soups by varying the vegetables, the flavors, and by substituting fried bread dice for the pork. Many persons like tomatoes in the soup.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Split peas.....		8	4	54.6	2.5	139.4	827
Salt pork.....		3	1.5	3	76.5	.....	723
Butter.....		.5	.7	.....	11.8	.....	110
Flour.....		.5	.1	3.2	.3	21.1	100
Onion.....		2.1	.3	.9	.2	5	26
			6.6	61.7	91.3	165.5	1786

NO. 53. POTATO SOUP.

Slice the potatoes and onions into stew-pan and fry them slightly in the butter. Add pepper, salt, a little summer savory, celery, or other flavor. Add the milk or stock, and boil until the vegetables can be pressed through a sieve. The soup may be enriched by adding milk or cream just before serving.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Potatoes.....	2	.....	3	16.8	.8	138.8	620
Onions.....	1	.....	2	7.2	1.6	40	208
Skimmed milk, or white stock....	4	.....	8	61.6	5.6	92.4	680
Butter.....		1	1.5	.2	23.7	.....	221
			14.5	25.8	31.7	171.2	1729

NO. 54. BOILED SALMON AND PEAS, EGG SAUCE.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Salmon.....	1	.....	25	75.7	67.1	.....	935
Green peas.....	1	.....	10	7.7	.9	31	167
Butter.....		2	3	.4	47.4	.....	442
Flour.....		1	.1	3.2	.3	21.1	100
Egg		2	2.5	7.4	5.4	.....	80
			40.6	94.4	121.1	52.1	1724

NO. 55. SMOKED HERRING ON TOAST.

Codfish on toast, creamed salt fish, fish hash, and fish balls may all be considered of about the same food value and cost.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Smoked herring..	1	.....	10	93	3.8	.....	416
Bread		8	2.5	21	2.7	119.5	602
Butter.....		2	3	.....	47.4	.....	442
			15.5	114	53.9	119.5	1460

NO. 56. CREAM OF GREEN PEA SOUP.

1 pint of shelled peas. Just enough water to cover in granite sauce-pan. Cook until tender, $\frac{1}{2}$ hour. Take out half, rub the rest through colander with the water in which they were cooked. Scald 3 cupfuls of sweet milk, rub together 2 tablespoonfuls flour, 1 tablespoon of butter; add to the milk and the strained peas. Stir until thickened; add the remaining peas and 1 cup of cream heated to scalding, a scant teaspoon of salt, and $\frac{1}{4}$ teaspoon of pepper.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Shelled Peas	1	.....	10	15.5	1.8	62	335
Sweet milk.....	1	8	5	22.5	27	34	487
Flour.....		.5	.05	1.6	.....	5.5	51
Butter.....		.5	.7	.....	11.8	.....	110
Cream, thin.....		8	8	7	30	8	340
			23.7	46.6	70.6	109.5	1323

NO. 57. TOMATO SOUP.

1 pint tomatoes cooked 20 minutes in 1 quart boiling water. Strain through a colander; add 1 teaspoonful soda, 1 pint rich milk, salt, pepper, and the butter. Soup stock may be used instead of the milk and fried bread dice instead of the crackers, which should be rolled fine. This may be taken as a type of the medium soups—vegetable, rice, macaroni, etc.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Tomatoes.....	1	.....	3	3.6	18	17.7	105
Milk.....	1	.....	4	15	18	22.7	325
Butter.....		2	3	.....	47.4	.....	442
Crackers.....		2	1	6	5	39	231
			11	24.6	88.4	79.4	1103

NO. 58. CONSOMMÉ.

Nearly all clear soups are of the same small food value. They may be enriched by the addition of vegetables; but they are not intended for food—only as appetizers.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Clear soup.....	3	.....	15	27	1.2	.....	122
Macaroni or peas.....		1	.5	.5	.....	3	14
			15.5	27.5	1.2	3	136

NO. 60. BAKED RICE AND CHEESE.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Rice.....	$\frac{1}{2}$	.....	4	17.7	.9	179.2	815
Cheese.....		6	6	49	61.6	.....	772
Bread crumbs.....		4	1.5	11.5	1.4	63.5	321
Butter.....		1	1.5	.6	23.6	.....	221
			13.0	78.8	87.4	242.7	2129

NO. 61. ENGLISH-MONKEY ON TOAST.

Soak the bread crumbs in the milk for fifteen minutes. Melt the butter and cheese together. Add the crumbs and the egg well beaten, salt, cayenne, and soda. Cook for five minutes and serve on $\frac{1}{2}$ dozen crackers toasted, or on bread slices.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Bread crumbs.....		8	2.8	23	2.9	127	642
Milk.....		10	2.8	10	12	15	217
Butter.....		1	1.5	.....	23.7	.....	221
Cheese.....		2	2	16.3	20.5	.....	257
Egg.....		2	1.5	7.4	5.4	.....	80
Bread.....		8	2.5	23	2.9	127	642
			13.1	79.7	67.4	269	2059

NO. 62. BAKED MACARONI AND CHEESE.

For a main dish double this.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Macaroni	4	2.5	13	1.8	82.6	416
Cheese	2	2	16.3	20.5	.....	257
Milk	4	.75	3.8	4.5	5.7	81
Butter	1	1.5	.....	23.7	.....	221
			6.75	33.1	50.5	88.3	975

NO. 63. CHEESE PUDDING.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Cheese	6	6	49	61.6	.....	772
Bread crumbs	8	2.5	23	2.9	127	642
Egg	2	3	7.4	5.2	.....	81
Butter	1	1.5	.6	23.7	.....	221
			13.0	80.0	93.4	127	1716

NO. 64. DROPPED EGGS ON TOAST.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Bread	8	2.5	23	2.9	127	642
Butter	2	3	.....	47.4	.....	442
Eggs	12	12	44.4	32.2	.....	483
			17.5	67.4	82.5	127	1567

NO. 65. BAKED CUSTARD.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Milk	2	.....	6	30	36	45.4	650
Sugar .....	.....	3	1.5	.....	.....	81	330
Eggs (4) .....	.....	8	8	29.6	20.8	.....	324
			15.5	59.6	56.8	126.4	1304

NO. 66. SWISS SANDWICHES.

Mix equal parts of grated Swiss cheese and chopped English-walnut meats. Season slightly with salt and cayenne, and spread between thin slices of bread and butter.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Cheese	2	3	7.4	5.2	.....	81
English-walnut meats	2	3	3	32	.....	178
Butter5	.7	.3	11.8	.....	110
Bread	8	2.5	23	2.9	127	642
			9.2	33.7	51.9	127	1011

NO. 67. BAKED CRACKERS WITH CHEESE.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
6 Boston crackers		4.5	1	13.6	12.6	87.4	531
Butter		1	1.5	.6	23.6	.....	221
Cheese.....		2	2	16.3	20.5	.....	257
			4.5	30.5	56.7	87.4	1009

NO. 68. CHEESE OMELET.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Cheese.....		4	4	32.6	41	.....	515
Milk		8	2	7.5	9	11.3	162
Eggs		8	6	29.6	21.5	.....	322
			12	69.7	71.5	11.3	999

NO. 70. RICE GRIDDLE-CAKES WITH MOLASSES.

Griddle-cakes or pancakes may be made plain with milk and baking powder, or with eggs. They may contain corn, rice, blueberries, or other fruit. They may be eaten with butter and sugar, or with syrup or molasses. The food value here given is a good average. They furnish an inexpensive and "tasty" dish.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Flour.....	1	4	2.8	63.5	5.6	424.6	2056
Rice, dry		2	1	4.4	.4	44.8	204
Eggs.....		4	4	14.8	10.8	.....	161
Butter.....		1.5	2	.....	35.5	.....	331
Molasses.....		4	.8	4	.....	58.9	242
			10.6	86.7	52.3	528.3	2994

NO. 71. CORN BREAD, NO. 1.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Indian meal.....	1	4	3.7	50.5	12.5	426	2070
Milk, sour.....	1	.....	3	15	10	20	236
Milk, sweet.....	1	.....	3	15	18.1	22.7	323
Butter .....	.....	1	1	.....	23.7	.....	221
			10.7	80.5	64.3	468.7	2850

NO. 72. BROWN BREAD.

One-half the recipe for a mixed meal. The sour milk is not usually whole milk, although the fat may be made up by sour cream or recovered butter.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Corn meal.....		6	1.2	15	3.7	127	621
Rye meal.....		6	1	12	2.8	128	600
Flour.....		8	1.7	25.6	2.5	164.1	820
Sour milk.....	1	8	4	27	15	37	402
Molasses.....		12	3.2	4	.....	58.9	242
Soda.....		.5	.1				
Salt.....		.5					
			11.2	83.6	24.0	515.0	2685

NO. 73. BAKING-POWDER BISCUIT.

	Lbs.	Oz.	Cost.	Proteid	Fat.	Carb.	Cal.
Flour, 1 qt.....	1	4	2.8	63.5	5.6	424.6	2056
Butter, 3 level tea- spoonfuls.....		1.5	2	.4	36	.....	338
Milk, 1½ cups.....		12	2.5	11.2	13.6	17	244
Baking powder, 3 teaspoonfuls...			.8				
			8.1	75.1	55.2	441.6	2638

NO. 74. OLD NEW ENGLAND CORN BREAD.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Indian meal.....		8	1	20.2	5	170.3	828
Suet.....		4	2	.....	113	.....	1055
Flour.....		4	.6	12.8	1.1	84.5	410
Molasses.....		4	.8	4	.....	58.9	242
			4.4	37.0	119.1	313.7	2535

NO. 76. MOLASSES COOKIES.

1 cup New Orleans molasses, ½ cup butter, 1 egg, 2 tablespoonfuls sugar, ½ cup of sour milk in which 1 level teaspoonful baking soda has been dissolved, a little cinnamon or ginger, about 1 quart flour. These excellent cookies are favored by children.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Flour.....	1	4	3.1	63.5	5.6	424.6	2056
Molasses.....		12	2.4	8.1	.....	235.6	967
Butter.....		4	5	.....	94.8	.....	884
Milk, sour.....		4	1.5	4	4.5	5.7	81
Sugar.....		1	.2	.....	.....	28.5	116
Egg.....		2	2.5	7.4	5.2	.....	81
			14.7	83.0	110.1	694.4	4185

NO. 77. CORN MUSH WITH MAPLE SYRUP.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Corn meal	10	1.2	25	6.2	213	1034
Fat, 4 level table- spoonfuls	2	1	.....	56.5	.....	527
Maple syrup	4	4	.....	.....	80.9	332
			6.2	25	62.7	293.9	1893

NO. 78. DOUGHNUTS.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Flour	1	4	2.8	62	6	428	2065
Sugar .....	.....	7	2	.....	.....	202	828
Milk .....	.....	9	1.5	8.3	10	13	179
Fat .....	.....	2	.5	.....	48	.....	446
Baking powder, 4 teaspoonfuls .....	.....	.....	.8	.....	.....	.....	.....
			7.6	70.3	64	643	3518

NO. 79. MARYLAND BISCUIT.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Flour, 1 pint	1.4	31	3.1	215.6	1040
Lard, $\frac{1}{2}$ cup	1.5	1.5	66.2	.....	622
Milk, $\frac{1}{2}$ cup75	4.2	5	6.2	48
Salt, 1 teaspoonful							
Water as necessary							
			3.65	36.7	74.3	221.8	1710

NO. 80. CRACKER TOAST, NO. 2.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Crackers	10	2	26	16	192	1022
Milk	12	2.5	11.2	13.6	17	242
Butter	1	1	.....	23.7	.....	221
			5.5	37	53.3	209	1485

NO. 81. GRAHAM MUFFINS.

The food value of other muffins is very nearly the same.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Flour, Graham, 1 cup.....			.96	18.5	3.1	99.4	511.9
Flour, white, 1 cup.....			.72	15.5	1.6	107.8	520.3
Sugar, $\frac{1}{2}$ cup.....			.6	.....	.....	50.5	207.2
Milk, $\frac{1}{2}$ cup.....			1	4.2	5	6.2	47.8
Suet, 1 lb.....			.02	.3	2.5	.....	110.6
Water, $\frac{1}{2}$ cup.....							
Salt, 1 teaspoonful	}	1	.			
Baking powder, 4 teaspoonfuls...							
			4.30	45.2	17.5	263.9	1471.6

NO. 82. PIE-CRUST.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Flour.....		8	1.3	25.6	2.5	169.1	822
Lard and butter..		8	6	.....	226.8	.. ..	2110
For two pies.....			7.3	25.6	229.3	169.1	2932
For one pie			3.6	12.8	114.6	84.5	1466

NO. 83. RICE CROQUETTES.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Rice, cold-boiled, dry.....		4	2	8.8	.4	89.6	407
Milk.....		8	1.5	7.5	9	11.3	161
Eggs (2).....		4	3	14.8	10.8	.....	161
Butter.....		1	1.5	.....	23.7	.....	221
Sugar.....		1	.2	.....	.....	28	116
Bread crumbs.....		4	1.5	11.5	1.4	63	321
			9.7	42.6	45.3	191.9	1387

NO. 85. MAYONNAISE FOR SALADS.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Yolks of 2 eggs...		2	4	9	9	.....	121
Juice of $\frac{1}{2}$ lemon..		1	1	.....	.....	3.2	13
Vinegar.....		1.5					
Olive oil, $\frac{1}{2}$ cup...		4	8	.....	120	.....	1116
			13	9	129	3.2	1250

NO. 86. POTATO CAKES.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Flour.....	8	.6	13	1.1	84.6	410
Potatoes, mashed.....	8	1	4	.2	34.9	155
Eggs (2).....	4	3	14.8	10.8	.....	161
Milk.....	4	.75	4	4.5	5.7	81
			5.35	35.8	16.6	125.2	807

NO. 88. CANDIED SWEET POTATOES.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Cooked sweet potatoes, cold.....	1	.....	2.5	6.8	2.7	104.7	460
Melted butter.....	.....	2	3.0	1	47	.....	440
Sugar.....	.....	2	.7	.....	.....	56.7	232
			6.2	7.8	49.7	161.4	1132

NO. 89. BREAD DICE, FRIED.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Bread.....	8	1.5	21	2.7	119	600
Fat.....	2	1.0	.....	56.5	.....	528
			2.5	21	59.2	119	1128

NO. 91. ESCALLOPED TOMATOES.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Tomatoes.....	1	.....	4	5.4	5	18.1	105
Bread crumbs.....	.....	6	2	16.2	1.8	90	450
Butter.....	.....	1.5	2.2	.....	23.7	.....	221
			8.2	21.6	30.5	108.1	776

NO. 93. MASHED POTATO.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Potatoes, boiled...	1	.....	2	12.2	.9	101	440
Milk.....	.....	4	1	4.1	5	6.2	88
Butter.....	.....	1	1.5	.....	23.7	.....	221
			4.5	16.3	29.6	107.2	749

NO. 94. LYONNAISE POTATOES.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Potatoes, cold, boiled.....	1	.....	2	8.1	.4	69	325
Fat.....	.....	1	.1	.....	28.4	.....	264
Onion.....	.....	.5	.1	.2	.....	1.2	6
			2.2	8.3	28.8	70.2	595

NO. 100. DATE PUDDING.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Dates.....	1.2	.....	7	10.3	24	336	1640
Flour.....	1	.....	2.5	51.2	5	338.3	1645
Sugar.....	.3	.....	1.5	.....	.....	136	558
Dripping.....	.3	.....	1	.....	136	.....	1266
Salt.....	.....	.2	.1	.....	.....	.....	.....
Nutmegs.....	.....	.6	.....	.....	.....	.....	.....
			12.1	61.5	165	810.3	5109

NO. 101. BLUEBERRY PUDDING.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Bread crumbs.....	.....	12	4	34.5	4.2	190.5	963
Blueberries.....	1	8	10	4	4	113	517
Sugar.....	.....	8	2.5	.....	.....	228	928
Dripping.....	.....	2	1	.....	56	.....	527
Hard sauce.....	.....	.....	2.5	.....	47.4	114	906
			20.0	38.5	111.6	645.5	3841

NO. 102. SUET PUDDING.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Beef suet.....	.....	8	4	10	186.2	.....	1770
Flour.....	1	4	3.1	63.5	5.6	424.6	2056
Molasses.....	.....	6	1.2	.....	.....	118.2	483
Soda.....	.....	.....	.1	.....	.....	.....	.....
			8.4	73.5	191.8	542.8	4309
Clear sauce, brown sugar.....	.....	4	1.2	.....	.....	108	441
			9.6	73.5	191.8	650.8	4750

NO. 103. FIG PUDDING.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Flour		4	.6	12	1.2	60	301
Bread crumbs.....		4	1.5	11.5	1.4	63.5	321
Suet.....		4	2	5	93	.....	885
Figs		6	3.6	7	.4	123	537
Eggs (2)		4	4.6	14	10.8	.....	161
			12.3	49.5	106.8	246.5	2205
SAUCE.							
Sugar		7	2.4	.....	.....	202	828
Butter		4	6	.....	94.8	.....	884
Vinegar.....	3						
			20.7	49.5	201.6	448.5	3917

NO. 105. SHORT-CAKE.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Flour, 1 qt.....	1	4	2.8	63.5	5.6	424.6	2056
Butter.....		3	4	.8	72	.....	676
Egg (1).....		2	2.3	6.7	5.3	.....	87
Milk, sweet or sour.....		8	1.5	8.3	10	12.6	179
Soda or baking powder							
Sweetened fruit.....			10	3	2	137	597
			20.6	82.3	94.9	574.2	3595

NO. 106. PLUM PUDDING, NO. 1.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Flour.....	1	8	3.7	77	7.5	507	2467
Raisins.....		5	3	3.4	6.4	100.4	490
Currants.....		5	4	1.6	4	89.4	401
Sugar.....		1	.....	.....	.....	31.7	130
or							
Molasses .....	.1	1.5	.3				
			11.0	82.0	17.9	728.5	3488

NO. 107. JAM ROLLS.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Flour	1	8	3.7	82	7.5	507	2467
Jam.....		10	10	5	10	190	890
			13.7	87	17.5	697	3357

NO. 108. BROWN-BETTY.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal
Bread crumbs.....	1	.....	4	46	5.8	254	1284
Butter.....		3	5	.....	71.1	.....	663
Apples.....	2	.....	4	2.7	2.7	98	440
Brown sugar.....		7	2.2	.....	.....	188	771
			15.2	48.7	79.6	540	3158
HARD SAUCE.							
Butter.....		3	5	.....	71.1	.....	663
Sugar.....		4	1.2	.....	.....	114	464
			21.4	48.7	150.7	654	4285

NO. 109. BREAD AND BUTTER.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Bread.....	1	3	3	51.6	6.5	296.8	1807
Sugar.....		5	1.7	.....	.....	136	558
Currants.....		1.6	1.8	.5	1.4	30	137
Butter.....	.05	.8	1.5	.4	19	.....	176
Milk.....	1	10	6	24	29	36.3	520
			14	76.5	55.9	499.1	3198

NO. 111. CHESTER PUDDING.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal
Molasses.....	4	1	4	.....	77	329
Milk.....	4	1.5	3	4.4	5.6	61
Beef suet.....	4	3	4.5	90.6	.....	845
Flour.....	12	2	36	2.4	240	1200
Raisins.....	4	4	3	5.3	66.4	288
			13	50.5	102.7	389.0	2723

NO. 112. APPLE TARTS.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Flour.....	1	.....	2.5	51.2	5	338.3	1640
Apples.....	1	8	4	2.7	2.7	84.3	382
Sugar.....	.....	5	1.5	.....	.....	136	558
			8.0	53.9	7.7	558.6	2580

NO. 113. PLUM PUDDING, NO. 2.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Milk		12	3	11.3	13.5	16.9	243
Cracker crumbs ..		8	2	24.2	22.5	156	947
Butter		2	3	1.2	47.2	.....	442
Raisins & currants		8	6	6	10.6	132.8	576
Citron							
Eggs (2)		4	7	15.8	10.4	.....	162
			21	58.5	104.2	305.7	2370

NO. 114. BAKED INDIAN PUDDING.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Milk	4	.....	12	60	72.4	90.8	1300
Corn meal	1	.....	2.5	40.4	10	340.6	1545
Sugar		10	3	.....	.....	283.5	1162
Eggs (4)		8	10	29.7	21.5	.....	322
Sour cream		1	4	.5	2	.5	21
Raisins		6	2.5	4	5	105	542
			34.0	134.6	110.9	820.4	4892

NO. 115. TAPIOCA PUDDING.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Tapioca		10	3	1.1	.8	237.6	990
Milk	2	8	7	33	40	50	715
Sugar		5	1.5	.....	.....	136	558
Nutmeg							
Butter		1	1.5	.4	19	.....	176
			13.0	34.5	59.8	433.6	2439

NO. 116. ENGLISH MILITARY COOKING.—RICE PUDDING.

For six men.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Rice		10	4	21	1	215	978
Milk (1.2 qts.)	2	8	7	33	39.8	49.9	715
Nutmeg (.3 of 1)			1				
Sugar		5	1.7	.....	.....	136	558
Butter		1	1.5	.4	19	.....	176
			15.2	54.4	59.8	400.9	2427

NO. 117. ICE-CREAM FOR SIX.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Thin cream, 3 cups	1	8	19	20.4	133.8	32.4	1352
Milk, $1\frac{1}{2}$ cups	12	2.5	12	15	18.6	264
Egg (1)	2	.2	4.8	39.6	.....	48
Sugar, 12 table-spoonfuls	6	2	.....	.....	151.8	624
Vanilla		25.5	37.2	188.4	202.8	2288

NO. 119. INDIAN PUDDING WITHOUT EGGS.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Milk, 5 cups	2	8	8.7	27	45	57	307
Corn-meal, 1 cup	.....	6	1.3	15.1	3.7	126.3	612
Molasses	.....	6	1	.....	.....	98	403
Ginger, $\frac{1}{2}$ oz	.....	.....	.2	.....	.....	.....	.....
			11.2	42.1	48.7	281.3	1822

NO. 120. TAPIOCA PUDDING, NO. 2.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Milk	2	.....	6	30	36.2	45.4	646
Eggs	.....	4	4	7.4	5.2	.....	81
Tapioca	.....	3	1	.4	.3	.....	309
Sugar	.....	2	.6	.....	.....	57	232
			11.6	10.8	41.7	102.4	1268

NO. 121. CREAMY RICE PUDDING FOR SIX.

Cook three hours.

	Lbs.	Oz.	Cost	Proteid.	Fat.	Carb.	Cal.
Skimmed milk	1	4	3	19	1.8	28	210
Rice	.....	4	1.5	8.8	.4	89.6	407
Sugar	.....	4	1.2	.....	.....	113.4	465
Salt	.....	.12	.....	.....	.....	.....	.....
Cinnamon	.....	.06	.1	.....	.....	.....	.....
			5.8	27.8	2.2	231	1082

NO. 122. CORN-STARCH PUDDING.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Corn-starch.....	.....	3	1	.....	.....	56	230
Milk.....	1	.....	3	15	18	22.7	325
Sugar.....	.....	4	1.2	.....	.....	113	465
			5.2	15	18	191.7	1020

NO. 125. HARD SAUCE.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Butter.....	1.5	3	1.5	35.2	.....	330
Sugar, granulated.....	4	1.2	.....	.....	113.4	465
			4.2	1.5	35.2	113.4	795

NO. 126. VINEGAR SAUCE.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Sugar.....	4	1.2	.....	.....	113	465
Butter.....	1	1.5	.6	23.6	.....	221
Flour.....	$\frac{1}{2}$	.07	1.5	.1	10	50
			2.77	2.1	23.7	123	736

NO. 128. CLEAR SAUCE.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Water.....	4					
Sugar, brown....	4	1.2	.....	.....	108	441
Flavor.....		1.2	.....	.....	108	441

NO. 129. FRUIT SAUCE.

	Lbs.	Oz.	Cost.	Proteid.	Fat.	Carb.	Cal.
Jelly or preserves.....	4	4	.....	.....	80	328
White of 1 egg....	1	1	13	.....	.....	53
			5	13	.....	80	381

TABLE VI.

DEFINITIONS AND EQUIVALENTS OF WEIGHTS AND MEASURES.

1 qt. flour.....	1 pound 4 oz.
1 pint granulated sugar.....	1 pound.
1 " butter.....	1 "
1 " chopped meat packed solid.....	1 "
1 " liquids.....	1 "
$\frac{1}{2}$ " rice.....	8 oz.
$\frac{1}{2}$ " raisins or currants	6 "
1 tablespoonful, heaped, granulated sugar.....	1 "
1 " , rounded, butter.....	1 "
2 tablespoonfuls level, liquids.	1 "
1 tablespoonful " of sugar or butter.	$\frac{1}{2}$ "
1 " , rounded, flour.....	$\frac{1}{2}$ "

In Appendix I will be found a table of interchangeable weights and measures, a use of which will greatly facilitate calculations.

TABLE VII.

APPROXIMATE COMPOSITION OF 1 POUND OF SOME COMMON FOOD MATERIALS.

FROM DATA CHIEFLY DERIVED FROM BULLETIN NO. 28, UNITED STATES
DEPARTMENT OF AGRICULTURE, BY PERMISSION OF THE SECRETARY.

Kind of Food.	Refuse.	Water.	Protein.	Fats.	C. H.	Calories	Cost per pound.
BEEF.	%	%	Grams.	Grams.	Grams.		
Chuck and shoulder, av'age	17.3	54	71.7	56.6	.....	820	
Fore-shank, very lean.....	44.1	41.6	55.8	7.3	.....	295	
Fore-shank, medium.....	36.9	42.9	58	33.1	.....	545	
Heart.....	5.9	53.2	67.1	112	.....	1320	
Hind shank, average.....	55.4	31	44.1	17.7	.....	345	
Loin, medium.....	13.3	52.5	73	79.4	.....	1040	
Neck.....	31.2	45.3	72.6	41.7	.....	650	
Ribs, lean.....	22.6	52.6	68.9	42.2	.....	675	
Ribs, fat.....	16.8	39.6	57.6	138.8	.....	1525	
Ribs, medium.....	20.8	43.8	63	96.1	.....	1155	
Rib-roll, medium.....	.....	63.9	87.5	75.7	.....	1065	
Round, lean.....	8.1	64.4	88.4	33.1	.....	670	
Round, medium fat.....	7.2	60.7	86.2	58.1	.....	895	
Round, medium.....	19.5	56.2	74.4	31.3	.....	595	
Rump, lean.....	14	56.6	86.6	49.9	.....	820	
Rump, medium.....	20.7	45	62.7	91.6	.....	1110	
Rump, average.....	19	46.9	68.9	84.4	.....	1065	
Steak, sirloin, medium.....	12.8	54	74.8	73	.....	985	
Steak, sirloin, top.....	3.2	40.9	60.3	191.9	.....	2030	
Steak, porterhouse.....	12.7	52.4	86.6	81.1	.....	1110	
Sweetbreads.....	.....	70.9	76.2	54.9	.....	825	
Tongue.....	26.5	51.8	63.9	30.4	.....	545	
Liver.....	7.3	65.6	93.9	20.4	6.8	555	
VEAL AND LAMB.							
Veal, breast, medium.....	21.3	52	69.9	50.1	.....	750	
Veal, fore-quarter.....	24.5	54.2	68.4	27.2	.....	585	
Veal, heart.....	.....	73.2	76.2	43.5	.....	720	
Veal, kidneys.....	.....	75.8	76.7	29	.....	585	
Veal, leg, average.....	11.7	63.4	82.9	30.3	.....	622	
Veal, loin.....	18.6	56.2	70.7	38.1	.....	644	
Veal, liver.....	.....	73.0	77.6	22.7	.....	575	
Lamb, fore-quarter.....	18.8	44.7	67.6	95.2	.....	1165	
Lamb, leg, medium fat....	17.4	52.9	72.1	61.7	.....	870	
Lamb, leg, aver analysis..	13.8	50.3	72.6	62.1	.....	1130	
Lamb, shoulder.....	20.3	41.3	65.3	107	.....	1265	
MUTTON.							
Fore-quarter, average....	21.2	41.6	55.8	111.1	.....	1265	
Leg, hind, average.....	17.7	51.9	69.9	65.8	.....	900	
Loin, medium, without kidney or tallow.....	16	42	61.2	128.4	.....	1445	
Loin, very fat.....	9	28.1	43.5	242.2	.....	2435	
Neck, medium.....	27.4	42.1	55.8	81.1	.....	985	
Shoulder, medium.....	22.5	47.9	62.1	70.3	.....	910	

TABLE VII.—*Continued.*

Kind of Food.	Refuse.	Water.	Protein.	Fats.	C. H.	Calories	Cost per pound.
PORK.	%	%	Grams.	Grams.	Grams		
Back fat.....	.....	7.7	16.3	407.8	.....	3860	
Headcheese.....	12.1	42.3	85.7	108.9	.....	1365	
Loin, medium.....	19.7	41.8	60.8	109.8	.....	1270	
Loin, average.....	19.3	40.8	59.9	117.9	.....	1340	
Shoulder.....	12.4	44.9	54.4	135.2	.....	1480	
Sausage:							
Bologna.....	3.3	55.2	82.6	89.4	.....	1170	
Farmer.....	3.9	22.2	126.6	183.2	.....	2225	
Frankfurt.....	.....	57.2	88.9	84.4	5.0	1170	
Wienerwurst.....	.....	43.9	127	100.2	7.3	1485	
COOKED MEATS.							
Corned beef.....	8.4	49.6	64.3	103.4	.....	1271	
Ground tongue, canned.....	.....	49.9	97.1	113.8	.....	1455	
Ham, boiled, aver. as purchased.....	.....	51.3	91.6	101.6	.....	1320	
Sandwich meats.....	.....	58.3	127	50	.....	985	
SALTED AND SMOKED.							
Beef, corned, brisket.....	21.4	40	65.3	88	.....	1085	
Beef, corned, rump, medium.....	6	54.5	64.9	99.8	.....	1195	
Beef, corned, plate.....	14.5	34.3	53.2	162.4	.....	1730	
Beef dried, salted and smoked.....	4.7	53.7	119.8	31.3	.....	780	
Beef tongue pickled.....	6	58.9	54	87.1	.....	1030	
Beef tripe pickled.....	.....	86.5	53.1	5.44	.....	270	
Ham, smoked, medium fat..	13.6	34.8	64.4	151.5	.....	1675	
Ham, smoked, lean.....	11.5	47.2	79.4	83.9	.....	1105	
Bacon, av'age of analysis.	8.7	18.4	40.1	269.4	.....	2685	
Pork backs, salted.....	8.1	15.9	32.2	303	.....	2950	
Pork, lean ends, salted....	11.2	17.6	33.5	270.4	.....	2655	
Pigs' feet, pickled.....	35.5	44.6	46.3	42.2	.....	585	
Salt cod, boneless.....	1.6	54.8	125.7	1.4	.....	545	
Halibut, smoked.....	7	46	87.5	63.5	.....	950	
Herring, smoked.....	44.4	19.2	93	39.9	.....	750	
Mackerel, salted.....	22.9	32.5	73.9	78.9	.....	1035	
Sardines.....	5	53.6	107.5	54.9	.....	950	
FATS.							
Cottolene.....	.....	.....	.....	453.6	.....	4220	
Lard, refined.....	.....	.....	.....	453.6	.....	4220	
Marrow, beef.....	.....	3.3	10	420.9	.....	3955	
Oleomargarine.....	.....	9.5	5.4	376.5	.....	3525	
Suet.....	.....	13.7	21.3	372	.....	3540	
Tallow, refined.....	.....	.....	...	453.6	.....	4220	

TABLE VII.—*Continued.*

Kind of Food.	Refuse.	Water.	Protein.	Fats.	C. H.	Calories	Cost per pound.
CHICKEN AND FOWL.							
	%	%	Grams.	Grams.	Grams.		
Chicken.....	41.6	43.7	58.1	6.4	3.2	295	
Fowl.....	25.9	47.1	62.1	55.8	7.7	775	
Turkey.....	22.7	42.4	73	86.6	3.6	1075	
FISH.							
Bass, striped, whole.....	55	35.1	38.1	5	.....	200	
Bluefish.....	48.6	40.3	45.4	2.7	.....	210	
Catfish.....	19.4	51.7	52.6	75.3	.....	915	
Cod, dressed.....	29.9	58.5	50.3	.9	.....	215	
Cod, steaks.....	9.2	72.4	77.1	2.3	.....	335	
Haddock.....	51	40	38.1	.9	.....	165	
Halibut steaks.....	17.7	61.9	69.4	20	.....	470	
Mackerel, entrails removed, as purchased.....	40.7	43.7	52.6	15.9	.....	365	
Oysters, solids.....	.....	88.3	27.2	5.9	15	230	
Red snappers.....	46.1	42	49	2.7	.....	225	
Salmon, sections.....	10.3	57.9	75.7	67.1	.....	935	
Shad.....	50.1	35.2	42.6	21.8	.....	380	
Shad roe.....	.....	71.1	94.8	17.2	11.8	600	
Whitefish.....	53.5	32.5	48.1	13.6	.....	325	
FLOURS.							
Roller process, high grade, average.....	.....	12.4	50.8	4.5	339.7	1645	
Roller process, straight grade, average.....	.....	12.8	49	5	339.3	1640	
Whole wheat.....	.....	11.4	62.6	8.6	326.1	1675	
Buckwheat.....	.....	13.6	29	5.4	353.4	1620	
Pea flour.....	.....	11.4	114.3	9.1	259.0	1615	
CEREALS & FLOUR PASTES.							
Barley, pearled.....	.....	11.5	38.6	4.9	352.9	1650	
Corn meal, unbolted.....	10.1	10.3	34.0	19.1	298.9	1545	
Corn meal, bolted.....	.....	12.9	40.4	10	340.6	1655	
Hominy.....	.....	79.3	37.6	2.7	335.8	1650	
Oatmeal and roller oats.....	.....	7.3	73	32.6	306.2	1820	
Macaroni.....	.....	10.3	60.8	4.1	336.1	1665	
Popcorn.....	.....	4.3	48.5	22.7	357	1875	
Rice.....	.....	12.8	36.3	1.4	358.3	1630	
Rice, boiled.....	.....	72.5	12.7	.4	110.7	525	
Tapioca.....	.....	11.4	4.1	.4	399.2	1650	
Wheatlet.....	.....	10.4	55.7	6.3	340.1	1685	
Shredded wheat.....	.....	9.6	54.9	8.2	341.1	1700	
BREAD.							
Brown.....	.....	43.6	24.5	8.2	213.6	1050	
Rye.....	.....	35.7	40.8	2.7	241.3	1180	
White, miscellaneous, as purchased.....	.....	35.6	42.2	5.4	239	1205	
Bread-crumbs.....	.....	25.0	46.0	5.8	254	1284	

TABLE VII.—Continued.

Kind of Food.	Refuse.	Water.	Protein.	Fat.	C. H.	Calories	Cost per pound.
CRACKERS.							
	%	%	Grams	Grams.	Grams.		
Boston.....		7.5	49.9	38.6	322.5	1885	
Butter.....		7.2	41.9	45.8	324.8	1935	
Oyster.....		4.8	51.3	47.6	319.8	1965	
Pilot-bread.....		8.7	50.3	22.7	336.6	1800	
Saltines.....		5.6	48.1	57.6	310.7	2005	
Soda.....		5.9	44.5	41.3	331.6	1925	
FRESH FRUIT.							
Apples.....	25	63.3	1.4	1.4	50	220	
Apricots.....	6	79.9	4.5	.....	57.2	253	
Bananas, yellow.....	35	48.9	3.6	1.8	64.9	300	
Blackberries.....		86.3	5.9	4.5	49.4	270	
Cherries, stoned.....		80.9	4.5	3.6	75.7	365	
Cranberries.....		88.9	1.8	2.7	44.9	215	
Grapes.....	25	58	4.5	5.4	65.3	335	
Huckleberries.....		81.9	2.7	2.7	75.3	345	
Lemons.....	30	62.5	3.2	2.3	26.8	145	
Oranges.....	27	63.4	2.7	.4	38.6	170	
Peaches.....							
Pears.....	10	76	2.3	1.8	57.6	260	
Plums.....	5	74.5	4.1	.....	86.6	370	
Raspberries, red, as purchased.....		85.8	4.5	.....	57.2	255	
Strawberries.....	5	85.9	4.1	2.7	31.6	175	
Watermelons.....	59.4	37.5	.9	.45	12.3	60	
Whortleberries (blueberries).....		82.4	3.2	13.	61.2	390	
DRIED FRUIT.							
Apples.....		28.1	7.3	10	299.8	1350	
Apricots.....		29.4	21.3	4.5	283.5	1290	
Peaches.....							
Currants.....		17.2	10.9	7.7	336.6	1495	
Dates.....	10	13.8	8.6	11.3	320.2	1450	
Figs.....		18.8	19.5	1.4	336.6	1475	
Prunes.....	15	19	8.2	.....	283	1190	
Raisins.....	10	13.1	10.4	13.6	310.7	1445	
NUTS.							
Almonds, as purchased.....	45	2.7	52.2	13.7	43.1	1660	
Chestnuts, fresh.....	16	37.8	23.6	20.4	160.6	945	
Chestnuts, dry.....	24	4.5	37.7	24	255.8	1425	
Cocoanut, prepared.....		3.5	28.6	260.4	142.8	3125	
Peanuts.....	24.5	6.9	88.5	132	83.9	1935	
Peanut butter.....		2.1	132.9	210.5	77.6	2825	
Walnuts (California).....	73.1	.7	22.2	78.5	15.9	885	
SUGARS.							
Honey.....		18.2	1.8	.....	368.3	1520	
Molasses, cane.....		25.1	10.9	.....	314.3	1290	

TABLE VII.—*Continued.*

Kind of Food.	Refuse.	Water.	Protein.	Fat.	C. H.	Calories	Cost per pound.
SUGARS.							
	%	%	Grams.	Grams.	Grams.		
Sugar, coffee or brown		5.0	.....	.....	431	1766	
Sugar, granulated .....			.....	.....	453.6	1860	
Sugar, maple .....			.....	.....	375.6	1540	
Syrup, maple		29.0	.....	.....	323.9	1330	
MISCELLANEOUS.							
Chocolate		5.9	58.5	220.9	137.4	2860	
Cocoa		4.6	98	131	171	2320	
Cereal coffee							
DAIRY PRODUCTS.							
Butter, as purchased		11	4.5	385.5	.....	3605	
Cream, thin			14	60	16	681	
Cream, thick			12	22	12	1223	
Cream, common		74	11.3	38.6	20.4	910	
Cheese, American pale		31.6	130.6	162.8	1.4	2060	
Cheese, Cottage		72.0	94.8	4.5	19.5	510	
Cheese, Dutch		35.2	.....	80.3	45.4	1435	
Cheese, Neuchatel		50	84.8	124.3	6.8	1530	
Cheese, Swiss		31.4	125.2	158.3	5.9	2010	
Cheese, imitation full cream, Ohio		37.9	117.5	143.8	.....	1820	
Milk, whole		87	15	18.1	22.7	325	
Milk, skimmed		90.5	15.4	1.4	23.1	170	
Milk, butter		91	13.6	2.3	21.8	165	
Milk, condensed, sweetened		26.9	30.9	37.6	245.4	1520	
Milk, " unsweetened		68.2	43.5	42.2	50.8	780	
EGGS.							
Whole	11.2	65.5	59.5	43.1	.....	645	
Whites		86.2	59	9	.....	425	
Yolks		49.5	71	73	.....	971	
VEGETABLES, FRESH.							
Asparagus		94	8.2	.9	15	105	
Beans, dry		12.6	102.1	8.2	270.3	1605	
Beans, butter green	50	29.4	21.3	1.4	66.2	370	
Beans, lima, dried		10.4	72.1	6.8	208.9	1625	
Beans, lima, green shelled		68.5	32.2	3.2	99.8	570	
Beans, string		89.2	10	1.8	33.5	195	
Beets	20	70	5.9	.5	34.9	170	
Cabbage	15	77.7	6.4	.9	21.8	125	
Carrots	20	70.6	4.1	.9	33.6	160	
Cauliflower		92.3	8.2	2.3	21.3	140	
Celery, as purchased	20	75.6	4.1	.45	11.8	70	
Corn, green, edible portion		74.4	14.1	5	89.4	470	
Cucumbers	15	81.1	3.2	.9	11.8	70	
Lentils, dry		8.4	116.6	4.5	268.6	1620	

TABLE VII.—*Continued.*

Kind of Food.	Refuse.	Water.	Protein.	Fat.	C. H.	Calories	Cost per pound.
VEGETABLES, FRESH.							
	%	%	Grams.	Grams.	Grams.		
Lettuce.....	15	80.5	4.5	.9	23.6	75	
Onions.....	10	78.9	6.4	1.4	40.4	205	
Parsnips.....	20	66.4	5.9	1.8	49	240	
Pease, dry.....	.....	9.5	111.7	4.5	281.2	1655	
Pease, green.....	45	40.8	16.3	.9	44.5	255	
Pease, sugar, shelled.....	.....	81.8	15.4	1.8	62.1	335	
Potatoes, boiled.....	.....	75.5	11.3	.45	94.8	440	
Potatoes, fried (chips).....	.....	2.2	30.8	180.5	211.8	2675	
Potatoes, raw.....	20	62.6	8.2	.45	66.7	310	
Potatoes, sweet.....	20	55.2	6.4	2.7	99.3	460	
Pumpkins.....	50	46	2.3	.45	11.8	60	
Radishes.....	30	64.3	4.1	.45	18.1	95	
Rhubarb.....	40	56.6	1.8	1.8	10	65	
Spinach.....	.....	92.3	9.5	1.8	12.8	110	
Squash.....	50	44.2	3.2	.9	20.4	105	
Tomatoes.....	.....	94.3	4.1	1.1	17.7	105	
Turnips.....	30	62.7	4.1	.45	25.9	125	
CANNED VEGETABLES.							
Corn, green.....	.....	76.1	12.7	5.4	86.2	455	
Pease, green.....	.....	85.3	16.3	.9	44.5	255	
Pumpkins.....	.....	91.6	3.6	.9	30.4	150	
Succotash.....	.....	75.9	16.3	4.5	84.4	455	
Tomatoes.....	.....	94	5.4	.9	18.1	105	
Yeast.....	.....	65.1	53.1	1.8	95.3	625	
Cucumber pickles.....	.....	92.9	2.3	1.4	12.2	70	

QUANTITIES ALLOWED IN MAKING UP THE VALUES FOR SIX PERSONS, ALL EATING HEARTILY.

Coffee, 1 oz. Tea, .5 oz. Milk for coffee, 6 oz ; for tea, 4 oz. Cream for coffee, 3 oz. Cream for tea, 2 oz. Dry cereal, 6 oz. Milk for cereal, 8 oz. Cream for cereal, 6 oz. Sugar for cereal, 2 oz. Bread as an accessory to a meal, 4 oz.; butter for the same, 1 oz. Bread as a substantial portion of a meal, 12 oz.; butter for the same, 3 oz. Fruits for a meal, either fresh or cooked, 2 lbs. Sugar for the same, 2 to 4 oz. Chops for breakfast, 2 to 2.5. Steak for breakfast, 2 to 3. One egg, 2 oz. Hash for breakfast or luncheon: 1 lb. of meat, 2 lbs. of potatoes. Toast for breakfast or luncheon: 12 oz. bread.

Meat for the day should be kept as low as 4 lbs. for the six persons on an average. Total bread or equivalents, 1 to 1.5 lbs. for the six; vegetables, 2 to 4 lbs.; sugar, 2 to 4 oz.; fruits, fresh or dried, 2 to 4 oz.

The hearty dinner puddings are to be used with the less nutritious meat dishes, and the soups and light puddings with the rich meat dishes.

Prices vary with the season, with the locality, and with scarcity or plenty, and therefore only for small quantities fairly average prices have been used in these sample tables. Each person will insert the prices prevalent at the time and place. Other dishes will be added very readily. The quantities are based on those allowed in military rations in workingmen's families for the inexpensive dishes, because only two or three are placed upon the table at a time, and together they must furnish the required fuel value.

For the more expensive and delicate dishes somewhat less amounts are allowed, since four or more kinds of food may be used, and since a smaller amount may serve as relish to the heartier dishes.

Dishes consisting chiefly of flour, sugar, and recovered fat are inexpensive. The addition of fat in any form brings up the heat units twice as much as the same quantity of sugar.

The meat dishes are expensive in proportion to the quantity of meat in them, and that meat which has much fat is of higher cost than that which is lean; but this fat is often largely wasted on the plates and in the garbage-pail. The housewife who values the fat as it should be valued saves the dripping, and uses it in cooking instead of "cooking butter."

A judicious use of cereals and vegetables with recovered "dripping" or salt pork, with just enough meat to flavor the resulting dish, will enable the provider to furnish the main dish for each meal for about 15 cents per 1,000 calories, or 90 cents for 12,000 calories. The remaining 3,000 to 6,000 calories may be made up of relishes or luxuries, as the purse and inclination permits. A reliance on meats of the tender sort, eaten with fresh vegetables, means an average expenditure of 15 to 20 cents per 1,000 calories, \$2.40 per 12,000; \$16.80 ÷ \$2.80 per week for the essential elements of food.

Vegetables have more waste substance, and therefore a more generous allowance must be made. The proteid especially must be increased by one third.

Milk for cooking is reckoned at 4 to 6 cents per quart, since it is usually topped, i.e., has had the cream removed.

Some of the dishes would only be made when the ingredients could be had at a low cost. This is why the prices given are not always uniform. This whole pamphlet is only an example of *method*, and makes no pretensions to exactness in a field where accurate results are impossible with the meagre facts available. If it shall hasten the day when better figures are at the service of the purveyor, it will have served its mission.

APPENDIX I.

TABLE OF INTERCHANGEABLE WEIGHTS AND MEASURES
WITH APPROXIMATE FOOD VALUE OF THE SAME.

Measures. Approximate only.	Weights.	Refuse. %	Water. %	Protein. Grams.	Fats. Grams.	C. H. Grams.	Calories
BREAD FLOUR.							
45 tbsps.	{ 1 lb. = 16 oz. } { 453.6 gms. }	.....	12.4	50.8	4.5	339.7	1645
2 $\frac{3}{4}$ tbsps.	1 oz. = 28.3 gms.	.....	.....	3.1	.28	21.2	102.8
1 cup = 14 tbsps.	140 gms. = 5 oz.	.....	.....	15.6	1.26	103.6	506.8
1 tbsp.	10 gms. = $\frac{8}{5}$ oz.	.....	.....	1.12	.09	7.4	36.2
WHOLE WHEAT.							
41 tbsps.	{ 1 lb. = 16 oz. } { 453.6 gms. }	.....	11.4	62.6	8.6	326.1	1675
2 $\frac{1}{2}$ tbsps.	1 oz. = 28.3 gms.	.....	.....	3.9	.53	20.3	104.6
1 cup = 14 tbsps.	154 gms. = 5 $\frac{1}{2}$ oz.	.....	.....	21.1	2.5	110.6	569.2
1 tbsp.	11 gms. = $\frac{7}{8}$ oz.	.....	.....	1.5	.18	7.9	40.6
PASTRY FLOUR.							
56 $\frac{1}{2}$ tbsps.	{ 1 lb. = 16 oz. } { 453.6 gms. }	.....	12.8	49	5	339.3	1640
3 $\frac{1}{2}$ tbsps.	1 oz. = 28.3 gms.	.....	.....	3	.31	21.2	102.5
1 cup = 14 tbsps.	112 gms. = 4 oz.	.....	.....	12.04	1.12	82.6	404.6
1 tbsp.	8 gms. = $\frac{5}{8}$ oz.	.....	.....	.86	.08	5.9	28.9
BUCKWHEAT.							
41 tbsps.	{ 1 lb. = 16 oz. } { 453.6 gms. }	.....	13.6	29	5.4	353.4	1620
2 $\frac{1}{2}$ tbsps.	1 oz. = 28.3 gms.	.....	.....	1.8	.33	22.08	101
1 cup	154 gms. = 5 $\frac{1}{2}$ oz.	.....	.....	9.8	1.12	120.4	546
BARLEY.							
28 tbsps.	{ 1 lb. = 16 oz. } { 453.6 gms. }	.....	11.5	38.6	4.9	352.9	1650
1.7 tbsps.	1 oz. = 28.3 gms.	.....	.....	2.4	.3	22	104
1 cup = 14 tbsps.	224 gms. = 8 oz.	.....	.....	19.04	2.52	174.3	814
1 tbsp.	16 gms. = $\frac{1}{2}$ oz.	.....	.....	1.3	.18	12.45	582
CORN MEAL (UNBOLTED).							
38 tbsps.	{ 1 lb. = 16 oz. } { 453.6 gms. }	10	10.3	34	19.1	298.9	1545
2 $\frac{3}{8}$ tbsps.	1 oz. = 28.3 gms.	.....	.....	2	1.2	18.6	97
1 cup = 14 tbsps.	168 gms. = 6 oz.	.....	.....	12.6	7	110.6	571.6
1 tbsp.	12 gms.	.....	.....	.9	.5	7.9	40.8

INTERCHANGEABLE WEIGHTS AND MEASURES.

Measures. Approximate only.	Weights.	Refuse. %	Water. %	Protein. Grams.	Fats. Grams.	C. H. Grams	Calories
CORN MEAL (BOLTED).							
45 tbsps.	{ 1 lb. = 16 oz. }	.....	12.9	40.4	10	340	16.
2.8 tbsps.	{ 453.6 gms. }	.....	.....	2.5	.62	21	103
1 cup = 13 tbsps.	1 oz. = 28.3 gms.	.....	.....	11.1	3	97.6	474
1 tbsp.	130 gms. = 4 oz.	.....	.....	1.11	.3	9.7	47.4
	10 gms.	.....	.....		
ROLLED OATS.*							
90 tbsps.	{ 1 lb. = 16 oz. }	.....	7.3	73	32.6	306.2	1820
5½ tbsps. +	{ 453.6 gms. }	.....	.....	4.5	2	12.8	113.7
1 cup = 14 tbsps.	1 oz. = 28.3 gms.	.....	.....	11.2	5.02	44.18	280
1 tbsp.	70 gms. = 2½ oz.	.....	.....	.8	.35	3.37	20
	5 gms.	.....	.....		
WHEATLET.							
37 tbsps. +	{ 1 lb. = 16 oz. }	.....	10.4	55.7	6.3	340.1	1685
2½ tbsps. -	{ 453.6 gms. }	.....	.....	3.4	.39	21.2	105.3
1 cup = 15 tbsps.	1 oz. = 28.3 gms.	.....	.....	22.5	1.8	134	667
1 tbsp.	{ 180 gms. = }	.....	.....	1.4	.12	8.9	44.5
	{ 6¼ oz. + }	.....	.....		
	12 gms. = ½ oz. -	.....	.....		
RICE.							
26½ tbsps. +	{ 1 lb. = 16 oz. }	.....	12.8	36.3	1.4	358.3	1630
1½ tbsps.	{ 453.6 gms. }	.....	.....	2.4	.08	22.3	101.8
1 cup = 14 tbsps.	1 oz. = 28.3 gms.	.....	.....	18.9	.7	187.8	854
1 tbsp.	{ 238 gms. = }	.....	.....	1.35	.05	13.4	61
	{ 8½ oz. - }	.....	.....		
	17 gms.	.....	.....		
HOMINY.							
33 tbsps.	{ 1 lb. = 16 oz. }	.....	7.9	37.6	2.7	335.8	1650
2 tbsps.	{ 453.6 gms. }	.....	.....	2.4	.16	20.9	103
1 cup = 14 tbsps.	1 oz. = 28.3 gms.	.....	.....	16.1	1.12	144	712.6
1 tbsp.	196 gms. = 7 oz.	.....	.....	1.15	.08	10.3	50.9
	14 gms. ½ oz.	.....	.....		
TAPIOCA.							
35 tbsps.	{ 1 lb. = 16 oz. }	.....	11.4	4.01	.45	399.2	1650
2 tbsps. +	{ 453.6 gms. }	.....	.....	.25	.02	24.9	103
1 cup = 13 tbsps.	1 oz. = 28.3 gms.	.....	.....	1.8	.13	171.6	709.2
1 tbsp.	195 gms. = 7 oz.	.....	.....	.14	.01	13.2	54.5
	15 gms. = ½ oz. +	.....	.....		

* Measured lightly and level. The weight will vary according to the compactness in the measurement.

INTERCHANGEABLE WEIGHTS AND MEASURES.

Measures. Approximate only.	Weights.	Refuse. %	Water. %	Protein. Grams.	Fats. Grams.	C. H. Grams.	Calories
MACARONI.							
1 cup (1-inch pieces)	1 lb. = 16 oz. }	.....	10.3	60.8	4.1	336.1	1665
	453.6 gms. }						
	120 gms. }						
	4½ oz. + }	.....	.....	6.12	1.08	88.8	440.4
BUTTER.							
32 tbsps.	{ 1 lb. = 16 oz. }	.....	11	4.5	385.5	.....	3605
	{ 453.6 gms. }						
2 tbsps.	1 oz. = 28.3 gms.	.....	.....	.2	24.1	.....	225.3
1 cup = 16 tbsps.	226.8 gms. = 8 oz.	.....	.....	2.2	192.7	.....	1802
1 tbsp.	14.1 gms. = ½ oz.	.....	.....	.1	12	.....	112.6
GRANULATED SUGAR.							
31 tbsps. —	{ 1 lb. = 16 oz. }	.....	.....	.....	.....	453.6	1860
	{ 453.6 gms. }						
2 tbsps. —	1 oz. = 28.3 gms.	.....	.....	.....	.....	28.3	116
1 cup = 14 tbsps.	{ 210 gms. }	.....	.....	.....	.....	168	861
	{ 7½ oz. — }	.....	.....	.....	.....
	{ 15 gms. }	.....	.....	.....	.....
1 tbsp.	{ ½ oz. + }	.....	.....	.....	.....	12	61.5
BROWN SUGAR.*							
1 cup = 10 tbsps.	1 lb. = 16 oz. }	.....	5	.....	.....	431	1766
	453.6 gms. }	.....	.....	.....	.....
	1 oz. = 28.3 gms.	.....	.....	.....	.....	27	110.3
	{ 160 gms. }	.....	.....	.....	.....	150	623
1 tbsp.	{ 6 oz. — }	.....	.....	.....	.....	15	62.3
	16 gms. = ½ oz. + }	.....	.....	.....	.....
POWDERED SUGAR.							
1 cup = 14 tbsps.	1 lb. = 16 oz. }	.....	.....	.....	.....	453.6	1860
	453.6 gms. }	.....	.....	.....	.....
	1 oz. = 28.3 gms.	.....	.....	.....	.....	28.3	116
	{ 168 gms. }	.....	.....	.....	.....	163.8	688.8
1 tbsp.	{ 6 oz. — }	.....	.....	.....	.....
	12 gms. = ½ oz. — }	.....	.....	.....	.....	11.7	49.2

* Brown sugar with much moisture and lumps may weigh more than indicated, but freed from lumps is of constant weight.

In the accompanying list of equivalent measurements and weights an ordinary "half-pint" measuring cup was used. This style of cup was found in all stores where kitchen utensils were sold, and half, quarter, and third divisions were indicated. The cost was five cents. Variation will be found in measuring-cups, but if the same cup is always used the results will be proportionally correct. A tablespoon which contained four level teaspoons was also used.

While no standard cup nor spoon is obtainable, the work of accurate measurement will be facilitated if a certain half-pint cup and a tablespoon of known capacity are set aside as the standard measurements in each household.

A few recipes are given to indicate measure, weight, and food value. With experience the food value per cup may be easily estimated, as in so many recipes there is a repetition of materials like flour, milk, sugar, butter, eggs, etc.

From the tables various combinations may be arranged.

Measure.	Weight.	Protein. Grams.	Fats. Grams.	C. H. Grams.	Calories	Cost. Cents.
CORN CAKE.						
1 cup corn meal.....	168 gms. = 6 oz.—	12.6	7	110.6	571.2	.8
$\frac{1}{2}$ cup flour.....	70 gms. = $2\frac{1}{2}$ oz.	7.8	.63	51	253.4	.5
2 tablespoonfuls sugar.	24 gms. = 1 oz.—	.....	.....	24	123	.3
2 tablespoonfuls butter.	28 gms. = 1 oz.	.2	24	.....	225	2
1 cup milk.....	232 gms. = 8 oz.+	7.5	9	11.3	162.5	2
1 egg.....	56 gms. = 2 oz.	7.4	5.2	.....	81	3
1 tablespoonful salt...						
3 tbsps. baking powder	7 gms. = $\frac{1}{4}$ oz.					
	585 gms. = $20\frac{3}{4}$ oz.	35.5	45.83	196.9	1416.1	8.6
BAKED MACARONI.						
1 cup macaroni.....	120 gms. = $4\frac{1}{4}$ oz.	6.12	1.08	88.8	440.4	3
1 cup milk.....	232 gms. = 8 oz. +	7.5	9	11.3	162.5	2
2 tablespoonfuls flour..	28 gms. = 1 oz.	3.1	.28	21.2	102.8	.0004
$2\frac{3}{4}$ tablespoonfuls butter	28 gms. = 1 oz.	.2	24	.....	225	2
4 tbsps. grated cheese.	56 gms. = 2 oz.	16.3	20.3	.1	257.5	2
3 rolled crackers for top.....	42 gms. = $1\frac{1}{2}$ oz.	4.6	3.6	30.1	176.7	.001
1 tbsp. salt-pepper....						
	506 gms. = $17\frac{3}{4}$ oz.	37.82	58.26	151.5	1364.9	9.0014
RICE PUDDING.						
2 cups milk (1 pint). }	464 gms. = 1 lb. + }	15	18.1	22.7	325	4
4 tablespoonfuls rice..	60 gms. = $2\frac{1}{2}$ oz.	5.40	.2	53.6	244	1
2 eggs.....	112 gms. = 4 oz.	15	10.4	.....	162	6
2 tablespoonfuls sugar.	24 gms. = 1 oz.—	.....	.....	24	123	.3
Salt and nutmeg.....		.....	.....	.....	.....	.01
	660 gms. = $23\frac{1}{2}$ oz.	35.40	28.7	100.3	854	11.31

SHORT-TITLE CATALOGUE

OF THE
PUBLICATIONS

OF
JOHN WILEY & SONS,

NEW YORK.

LONDON: CHAPMAN & HALL, LIMITED.

ARRANGED UNDER SUBJECTS.

Descriptive circulars sent on application.
Books marked with an asterisk are sold at *net* prices only.
All books are bound in cloth unless otherwise stated.

AGRICULTURE.

Armsby's Manual of Cattle-feeding.....	12mo,	\$1 75
Downing's Fruits and Fruit-trees of America.....	8vo,	5 00
Grotenfelt's Principles of Modern Dairy Practice. (Woll.)..	12mo,	2 00
Kemp's Landscape Gardening.....	12mo,	2 50
Maynard's Landscape Gardening as Applied to Home Decora- tion	12mo,	1 50
Stockbridge's Rocks and Soils.....	8vo,	2 50
Woll's Handbook for Farmers and Dairymen.....	16mo,	1 50

ARCHITECTURE.

Baldwin's Steam Heating for Buildings.....	12mo,	2 50
Berg's Buildings and Structures of American Railroads....	4to,	5 00
Birkmire's Planning and Construction of American Theatres.	8vo,	3 00
“ Architectural Iron and Steel.....	8vo,	3 50
“ Compound Riveted Girders as Applied in Build- ings	8vo,	2 00
“ Planning and Construction of High Office Build- ings	8vo,	3 50
“ Skeleton Construction in Buildings.....	8vo,	3 00
Briggs's Modern American School Buildings.....	8vo,	4 00
Carpenter's Heating and Ventilating of Buildings.....	8vo,	3 00
Freitag's Architectural Engineering.....	8vo,	3 50
“ Fireproofing of Steel Buildings.....	8vo,	2 50
Gerhard's Guide to Sanitary House-inspection.....	16mo,	1 00
“ Theatre Fires and Panics.....	12mo,	1 50
Hatfield's American House Carpenter.....	8vo,	5 00
Holly's Carpenters' and Joiners' Handbook.....	18mo,	75
Kidder's Architect's and Builder's Pocket-book..	16mo, morocco,	4 00
Merrill's Stones for Building and Decoration.....	8vo,	5 00

Monckton's Stair-building.....	4to,	4 00
Patton's Practical Treatise on Foundations.....	8vo,	5 00
Siebert and Biggin's Modern Stone-cutting and Masonry..	8vo,	1 50
Wait's Engineering and Architectural Jurisprudence.....	8vo,	6 00
“ Law of Operations Preliminary to Construction in En- gineering and Architecture.....	8vo,	5 00
“ Law of Contracts.....	8vo,	3 00
Woodbury's Fire Protection of Mills.....	8vo,	2 50
Worcester and Atkinson's Small Hospitals, Establishment and Maintenance, and Suggestions for Hospital Architecture, with Plans for a Small Hospital.....	12mo,	1 25
The World's Columbian Exposition of 1893.....	Large 4to,	1 00

ARMY AND NAVY.

Bernadou's Smokeless Powder, Nitro-cellulose, and the Theory of the Cellulose Molecule.....	12mo,	2 50
* Bruff's Text-book of Ordnance and Gunnery.....	8vo,	6 00
Chase's Screw Propellers and Marine Propulsion.....	8vo,	3 00
Craig's Azimuth.....	4to,	3 50
Crehore and Squire's Polarizing Photo-chronograph.....	8vo,	3 00
Cronkhite's Gunnery for Non-commissioned Officers..	24mo, mor.,	2 00
* Davis's Elements of Law.....	8vo,	2 50
* “ Treatise on the Military Law of United States...	8vo,	7 00
“ Sheep,		7 50
De Brack's Cavalry Outpost Duties. (Carr.)....	24mo, morocco,	2 00
Dietz's Soldier's First Aid Handbook.....	16mo, morocco,	1 25
* Dredge's Modern French Artillery.....	4to, half morocco,	15 00
Durand's Resistance and Propulsion of Ships.....	8vo,	5 00
* Dyer's Handbook of Light Artillery.....	12mo,	3 00
Eissler's Modern High Explosives.....	8vo,	4 00
* Fiebeger's Text-book on Field Fortification.....	Small 8vo,	2 00
* Hoff's Elementary Naval Tactics.....	8vo,	1 50
Ingalls's Handbook of Problems in Direct Fire.....	8vo,	4 00
* “ Ballistic Tables.....	8vo,	1 50
Lyons's Treatise on Electromagnetic Phenomena.....	8vo,	6 00
* Mahan's Permanent Fortifications. (Mereur's.)	8vo, half mor.	7 50
Manual for Courts-martial.....	16mo, morocco,	1 50
* Mereur's Attack of Fortified Places.....	12mo,	2 00
* “ Elements of the Art of War.....	8vo,	4 00
Metcalfe's Cost of Manufactures—And the Administration of Workshops, Public and Private.....	8vo,	5 00
“ Ordnance and Gunnery.....	12mo,	5 00
Murray's Infantry Drill Regulations.....	18mo, paper,	10
* Phelps's Practical Marine Surveying.....	8vo,	2 50
Powell's Army Officer's Examiner.....	12mo,	4 00

Sharpe's Art of Subsisting Armies in War.....	18mo, morocco,	1 50
Walke's Lectures on Explosives.....	8vo,	4 00
* Wheeler's Siege Operations and Military Mining.....	8vo,	2 00
Winthrop's Abridgment of Military Law.....	12mo,	2 50
Woodhull's Notes on Military Hygiene.....	16mo,	1 50
Young's Simple Elements of Navigation.....	16mo, morocco,	1 00
Second Edition, Enlarged and Revised.....	16mo, mor.,	2 00

ASSAYING.

Fletcher's Practical Instructions in Quantitative Assaying with the Blowpipe.....	12mo, morocco,	1 50
Furman's Manual of Practical Assaying.....	8vo,	3 00
Miller's Manual of Assaying.....	12mo,	1 00
O'Driscoll's Notes on the Treatment of Gold Ores.....	8vo,	2 00
Ricketts and Miller's Notes on Assaying.....	8vo,	3 00
Wilson's Cyanide Processes.....	12mo,	1 50
" Chlorination Process	12mo,	1 50

ASTRONOMY.

Craig's Azimuth.....	4to,	3 50
Doolittle's Treatise on Practical Astronomy.....	8vo,	4 00
Gore's Elements of Geodesy.....	8vo,	2 50
Hayford's Text-book of Geodetic Astronomy.....	8vo,	3 00
Merriman's Elements of Precise Surveying and Geodesy....	8vo,	2 50
* Michie and Harlow's Practical Astronomy.....	8vo,	3 00
* White's Elements of Theoretical and Descriptive Astronomy.		
	12mo,	2 00

BOTANY.

Baldwin's Orchids of New England.....	Small 8vo,	1 50
Davenport's Statistical Methods, with Special Reference to Bio- logical Variation.....	16mo, morocco,	1 25
Thomé and Bennett's Structural and Physiological Botany.		
	16mo,	2 25
Westermaier's Compendium of General Botany. (Schneider.)	8vo,	2 00

CHEMISTRY.

Adrianee's Laboratory Calculations and Specific Gravity Tables,		
	12mo,	1 25
Allen's Tables for Iron Analysis.....	8vo,	3 00
Arnold's Compendium of Chemistry. (Mandel.) (<i>In preparation.</i>)		
Austen's Notes for Chemical Students.....	12mo,	1 50
Bernadou's Smokeless Powder.—Nitro-cellulose, and Theory of the Cellulose Molecule.....	12mo,	2 50
Bolton's Quantitative Analysis.....	8vo,	1 50
Brush and Penfield's Manual of Determinative Mineralogy..	8vo,	4 00
Classen's Quantitative Chemical Analysis by Electrolysis. (Her- rick—Boltwood.)	8vo,	3 00

Cohn's Indicators and Test-papers.....	12mo,	2 00
Craft's Short Course in Qualitative Chemical Analysis. (Schaefer.)	12mo,	2 00
Drechsel's Chemical Reactions. (Merrill.).....	12mo,	1 25
Eissler's Modern High Explosives.....	8vo,	4 00
Effront's Enzymes and their Applications. (Prescott.)...	8vo,	3 00
Erdmann's Introduction to Chemical Preparations. (Dunlap.)	12mo,	1 25
Fletcher's Practical Instructions in Quantitative Assaying with the Blowpipe.....	12mo, morocco,	1 50
Fresenius's Manual of Qualitative Chemical Analysis. (Wells.)	8vo,	5 00
" System of Instruction in Quantitative Chemical Analysis. (Allen.)	8vo,	6 00
Fuertes's Water and Public Health.....	12mo,	1 50
Furman's Manual of Practical Assaying.....	8vo,	3 00
Gill's Gas and Fuel Analysis for Engineers.....	12mo,	1 25
Grotenfelt's Principles of Modern Dairy Practice. (Woll.) ..	12mo,	2 00
Hammarsten's Text-book of Physiological Chemistry. (Mandel.)	8vo,	4 00
Helm's Principles of Mathematical Chemistry. (Morgan.) ..	12mo,	1 50
Holleman's Text-book of Inorganic Chemistry. (Cooper.) ..	<i>(In preparation.)</i>	
Hopkins's Oil-chemists' Handbook.....	8vo,	3 00
Keep's Cast Iron.....	8vo,	2 50
Ladd's Manual of Quantitative Chemical Analysis.....	12mo,	1 00
Landauer's Spectrum Analysis. (Tingle.).....	8vo,	3 00
Lassar-Cohn's Practical Urinary Analysis. (Lorenz.) <i>(In preparation.)</i>		
Löb's Electrolysis and Electrosynthesis of Organic Compounds. (Lorenz.)	12mo,	1 00
Mandel's Handbook for Bio-chemical Laboratory.....	12mo,	1 50
Mason's Water-supply. (Considered Principally from a Sanitary Standpoint.).....	8vo,	5 00
" Examination of Water. (Chemical and Bacteriological.)	12mo,	1 25
Meyer's Determination of Radicles in Carbon Compounds. (Tingle.)	12mo,	1 00
Miller's Manual of Assaying.....	12mo,	1 00
Mixter's Elementary Text-book of Chemistry.....	12mo,	1 50
Morgan's Outline of Theory of Solution and its Results... ..	12mo,	1 00
" Elements of Physical Chemistry.....	12mo,	2 00
Nichols's Water-supply. (Considered mainly from a Chemical and Sanitary Standpoint, 1883.).....	8vo,	2 50
O'Brine's Laboratory Guide in Chemical Analysis.....	8vo,	2 00
O'Driscoll's Notes on the Treatment of Gold Ores.....	8vo,	2 00
Ost and Kolbeck's Text-book of Chemical Technology. (Lorenz—Bozart.) <i>(In preparation.)</i>		

* Penfield's Notes on Determinative Mineralogy and Record of Mineral Tests.....	8vo, paper,	0 50
Pinner's Introduction to Organic Chemistry. (Austen.)...	12mo,	1 50
Poole's Calorific Power of Fuels.....	8vo,	3 00
* Reisig's Guide to Piece-dyeing.....	8vo,	25 00
Richards and Woodman's Air, Water, and Food from a Sanitary Standpoint	8vo,	2 00
Richards's Cost of Living as Modified by Sanitary Science.	12mo,	1 00
" Cost of Food, a Study in Dietaries.....	12mo,	1 00
Ricketts and Russell's Skeleton Notes upon Inorganic Chemistry. (Part I.—Non-metallic Elements.)..	8vo, morocco,	75
Ricketts and Miller's Notes on Assaying.....	8vo,	3 00
Rideal's Sewage and the Bacterial Purification of Sewage.	8vo,	3 50
Ruddiman's Incompatibilities in Prescriptions.....	8vo,	2 00
Schimpf's Text-book of Volumetric Analysis.....	12mo,	2 50
Spencer's Handbook for Chemists of Beet-sugar Houses.	16mo, morocco,	3 00
" Handbook for Sugar Manufacturers and their Chemists	16mo, morocco,	2 00
Stockbridge's Rocks and Soils.....	8vo,	2 50
* Tillman's Elementary Lessons in Heat.....	8vo,	1 50
* " Descriptive General Chemistry.....	8vo,	3 00
Turneure and Russell's Public Water-supplies.....	8vo,	5 00
Van Deventer's Physical Chemistry for Beginners. (Boltwood.)	12mo,	1 50
Walke's Lectures on Explosives.....	8vo,	4 00
Wells's Laboratory Guide in Qualitative Chemical Analysis.	..8vo,	1 50
" Short Course in Inorganic Qualitative Chemical Analysis for Engineering Students.....	12mo,	1 50
Whipple's Microscopy of Drinking-water.....	8vo,	3 50
Wiechmann's Sugar Analysis.....	Small 8vo,	2 50
" Lecture-notes on Theoretical Chemistry....	12mo,	3 00
Wilson's Cyanide Processes.....	12mo,	1 50
" Chlorination Process.....	12mo,	1 50
Wulling's Elementary Course in Inorganic Pharmaceutical and Medical Chemistry.....	12mo,	2 00

CIVIL ENGINEERING.

BRIDGES AND ROOFS. HYDRAULICS. MATERIALS OF ENGINEERING. RAILWAY ENGINEERING.

Baker's Engineers' Surveying Instruments.....	12mo,	3 00
Bixby's Graphical Computing Table....	Paper, 19½ x 24½ inches.	25
Davis's Elevation and Stadia Tables.....	8vo,	1 00
Folwell's Sewerage. (Designing and Maintenance.).....	8vo,	3 00
Freitag's Architectural Engineering.....	8vo,	3 50
Goodhue's Municipal Improvements.....	12mo,	1 75

Goodrich's Economic Disposal of Towns' Refuse.....	8vo,	3 50
Gore's Elements of Geodesy.....	8vo,	2 50
Hayford's Text-book of Geodetic Astronomy.....	8vo,	3 00
Howe's Retaining-walls for Earth.....	12mo,	1 25
Johnson's Theory and Practice of Surveying.....	Small 8vo,	4 00
" Stadia and Earth-work Tables.....	8vo,	1 25
Kiersted's Sewage Disposal.....	12mo,	1 25
Mahan's Treatise on Civil Engineering. (1873.) (Wood.)..	8vo,	5 00
* Mahan's Descriptive Geometry.....	8vo,	1 50
Merriman's Elements of Precise Surveying and Geodesy....	8vo,	2 50
Merriman and Brooks's Handbook for Surveyors....	16mo, mor.,	2 00
Merriman's Elements of Sanitary Engineering.....	8vo,	2 00
Nugent's Plane Surveying. (<i>In preparation.</i>).....		
Ogden's Sewer Design.....	12mo,	2 00
Patton's Treatise on Civil Engineering.....	8vo, half leather,	7 50
Reed's Topographical Drawing and Sketching.....	4to,	5 00
Rideal's Sewage and the Bacterial Purification of Sewage..	8vo,	3 50
Siebert and Biggin's Modern Stone-cutting and Masonry..	8vo,	1 50
Smith's Manual of Topographical Drawing. (McMillan.)..	8vo,	2 50
* Trautwine's Civil Engineer's Pocket-book....	16mo, morocco,	5 00
Wait's Engineering and Architectural Jurisprudence.....	8vo,	6 00
	Sheep,	6 50
" Law of Operations Preliminary to Construction in En-		
gineering and Architecture.....	8vo,	5 00
	Sheep,	5 50
" Law of Contracts.....	8vo,	3 00
Warren's Stereotomy—Problems in Stone-cutting.....	8vo,	2 50
Webb's Problems in the Use and Adjustment of Engineering		
Instruments	16mo, morocco,	1 25
* Wheeler's Elementary Course of Civil Engineering.....	8vo,	4 00
Wilson's Topographic Surveying	8vo,	3 50

BRIDGES AND ROOFS.

Boller's Practical Treatise on the Construction of Iron Highway		
Bridges	8vo,	2 00
* Boller's Thames River Bridge.....	4to, paper,	5 00
Burr's Course on the Stresses in Bridges and Roof Trusses,		
Arched Ribs, and Suspension Bridges.....	8vo,	3 50
Du Bois's Stresses in Framed Structures.....	Small 4to,	10 00
Foster's Treatise on Wooden Trestle Bridges.....	4to,	5 00
Fowler's Cofferdam Process for Piers.....	8vo,	2 50
Greene's Roof Trusses.....	8vo,	1 25
" Bridge Trusses.....	8vo,	2 50
" Arches in Wood, Iron, and Stone.....	8vo,	2 50
Howe's Treatise on Arches.....	8vo,	4 00
Johnson, Bryan and Turneure's Theory and Practice in the		
Designing of Modern Framed Structures.....	Small 4to,	10 00
Merriman and Jacoby's Text-book on Roofs and Bridges:		
Part I.—Stresses in Simple Trusses.....	8vo,	2 50
Part II.—Graphic Statics.....	8vo,	2 00
Part III.—Bridge Design. Fourth Ed. (<i>In preparation.</i>)..	8vo,	2 50
Part IV.—Higher Structures.....	8vo,	2 50

Morison's Memphis Bridge.....	4to,	10 00
Waddell's De Pontibus, a Pocket Book for Bridge Engineers.....	16mo, mor.,	3 00
“ Specifications for Steel Bridges.....	12mo,	1 25
Wood's Treatise on the Theory of the Construction of Bridges and Roofs	8vo,	2 00
Wright's Designing of Draw-spans:		
Part I.—Plate-girder Draws.....	8vo,	2 50
Part II.—Riveted-truss and Pin-connected Long-span Draws.....	8vo,	2 50
Two parts in one volume.....	8vo,	3 50

HYDRAULICS.

Bazin's Experiments upon the Contraction of the Liquid Vein Issuing from an Orifice. (Trautwine.).....	8vo,	2 00
Bovey's Treatise on Hydraulics.....	8vo,	5 00
Church's Mechanics of Engineering.....	8vo,	6 00
Coffin's Graphical Solution of Hydraulic Problems.....	16mo, mor.,	2 50
Flather's Dynamometers, and the Measurement of Power.....	12mo,	3 00
Folwell's Water-supply Engineering.....	8vo,	4 00
Frizell's Water-power.....	8vo,	5 00
Fuertes's Water and Public Health.....	12mo,	1 50
“ Water-filtration Works.....	12mo,	2 50
Ganguillet and Kutter's General Formula for the Uniform Flow of Water in Rivers and Other Channels. (Hering and Trautwine.).....	8vo,	4 00
Hazen's Filtration of Public Water-supply.....	8vo,	3 00
Hazleurst's Towers and Tanks for Water-works.....	8vo,	2 50
Herschel's 115 Experiments on the Carrying Capacity of Large, Riveted, Metal Conduits.....	8vo,	2 00
Mason's Water-supply. (Considered Principally from a Sanitary Standpoint.).....	8vo,	5 00
Merriman's Treatise on Hydraulics.....	8vo,	4 00
* Michie's Elements of Analytical Mechanics.....	8vo,	4 00
Schuyler's Reservoirs for Irrigation, Water-power, and Domestic Water-supply.....	Large 8vo,	5 00
Turneure and Russell. Public Water-supplies.....	8vo,	5 00
Wegmann's Design and Construction of Dams.....	4to,	5 00
“ Water-supply of the City of New York from 1658 to 1895	4to,	10 00
Weisbach's Hydraulics and Hydraulic Motors. (Du Bois.).....	8vo,	5 00
Wilson's Manual of Irrigation Engineering.....	Small 8vo,	4 00
Wolff's Windmill as a Prime Mover.....	8vo,	3 00
Wood's Turbines.....	8vo,	2 50
“ Elements of Analytical Mechanics.....	8vo,	3 00

MATERIALS OF ENGINEERING.

Baker's Treatise on Masonry Construction.....	8vo,	5 00
Black's United States Public Works.....	Oblong 4to,	5 00
Bovey's Strength of Materials and Theory of Structures.....	8vo,	7 50
Burr's Elasticity and Resistance of the Materials of Engineering	8vo,	5 00
Byrne's Highway Construction.....	8vo,	5 00
“ Inspection of the Materials and Workmanship Employed in Construction.....	16mo,	3 00
Church's Mechanics of Engineering.....	8vo,	6 00
Du Bois's Mechanics of Engineering. Vol. I.....	Small 4to,	10 00
Johnson's Materials of Construction.....	Large 8vo,	6 00

Keep's Cast Iron.....	8vo,	2 50
Lanza's Applied Mechanics.....	8vo,	7 50
Martens's Handbook on Testing Materials. (Henning.).....	2 vols., 8vo,	7 50
Merrill's Stones for Building and Decoration.....	8vo,	5 00
Merriman's Text-book on the Mechanics of Materials.....	8vo,	4 00
Merriman's Strength of Materials.....	12mo,	1 00
Metcalf's Steel. A Manual for Steel-users.....	12mo,	2 00
Patton's Practical Treatise on Foundations.....	8vo,	5 00
Rockwell's Roads and Pavements in France.....	12mo,	1 25
Smith's Wire: Its Use and Manufacture.....	Small 4to,	3 00
Spalding's Hydraulic Cement.....	12mo,	2 00
" Text-book on Roads and Pavements.....	12mo,	2 00
Thurston's Materials of Engineering.....	3 Parts, 8vo,	8 00
Part I.—Non-metallic Materials of Engineering and Metal-		
lurgy	8vo,	2 00
Part II.—Iron and Steel.....	8vo,	3 50
Part III.—A Treatise on Brasses, Bronzes and Other Alloys		
and Their Constituents.....	8vo,	2 50
Thurston's Text-book of the Materials of Construction....	8vo,	5 00
Tillson's Street Pavements and Paving Materials.....	8vo,	4 00
Waddell's De Pontibus. (A Pocket-book for Bridge Engineers.)		
16mo, morocco,		3 00
" Specifications for Steel Bridges.....	12mo,	1 25
Wood's Treatise on the Resistance of Materials, and an Ap-		
pendix on the Preservation of Timber.....	8vo,	2 00
" Elements of Analytical Mechanics.....	8vo,	3 00

RAILWAY ENGINEERING.

Berg's Buildings and Structures of American Railroads..	4to,	5 00
Brooks's Handbook of Street Railroad Location..	16mo, morocco,	1 50
Butts's Civil Engineer's Field-book.....	16mo, morocco,	2 50
Crandall's Transition Curve.....	16mo, morocco,	1 50
" Railway and Other Earthwork Tables.....	8vo,	1 50
Dawson's Electric Railways and Tramways..	Small 4to, half mor.,	12 50
" "Engineering" and Electric Traction Pocket-book.		
16mo, morocco,		4 00
Dredge's History of the Pennsylvania Railroad: (1879.)..	Paper,	5 00
* Drinker's Tunneling, Explosive Compounds, and Rock Drills.		
4to, half morocco,		25 00
Fisher's Table of Cubic Yards.....	Cardboard,	25
Godwin's Railroad Engineers' Field-book and Explorers' Guide.		
16mo, morocco,		2 50
Howard's Transition Curve Field-book.....	16mo, morocco,	1 50
Hudson's Tables for Calculating the Cubic Contents of Exca-		
vations and Embankments.....	8vo,	1 00
Nagle's Field Manual for Railroad Engineers....	16mo, morocco,	3 00
Philbrick's Field Manual for Engineers.....	16mo, morocco,	3 00
Pratt and Alden's Street-railway Road-bed.....	8vo,	2 00
Searles's Field Engineering.....	16mo, morocco,	3 00
" Railroad Spiral.....	16mo, morocco,	1 50
Taylor's Prismoidal Formulæ and Earthwork.....	8vo,	1 50
* Trautwine's Method of Calculating the Cubic Contents of Ex-		
cavations and Embankments by the Aid of Dia-		
grams	8vo,	2 00
* " The Field Practice of Laying Out Circular Curves		
for Railroads.....	12mo, morocco,	2 50
* " Cross-section Sheet.....	Paper,	25

Webb's Railroad Construction.....	8vo,	4 00
Wellington's Economic Theory of the Location of Railways..		
	Small 8vo,	5 00

DRAWING.

Barr's Kinematics of Machinery.....	8vo,	2 50
* Bartlett's Mechanical Drawing.....	8vo,	3 00
Durley's Elementary Text-book of the Kinematics of Machines.		
	(In preparation.)	
Hill's Text-book on Shades and Shadows, and Perspective..	8vo,	2 00
Jones's Machine Design:		
Part I.—Kinematics of Machinery.....	8vo,	1 50
Part II.—Form, Strength and Proportions of Parts.....	8vo,	3 00
MacCord's Elements of Descriptive Geometry.....	8vo,	3 00
" Kinematics; or, Practical Mechanism.....	8vo,	5 00
" Mechanical Drawing.....	4to,	4 00
" Velocity Diagrams.....	8vo,	1 50
* Mahan's Descriptive Geometry and Stone-cutting.....	8vo,	1 50
Mahan's Industrial Drawing. (Thompson.).....	8vo,	3 50
Reed's Topographical Drawing and Sketching.....	4to,	5 00
Reid's Course in Mechanical Drawing.....	8vo,	2 00
" Text-book of Mechanical Drawing and Elementary Ma-		
chine Design.....	8vo,	3 00
Robinson's Principles of Mechanism.....	8vo,	3 00
Smith's Manual of Topographical Drawing. (McMillan.)	8vo,	2 50
Warren's Elements of Plane and Solid Free-hand Geometrical		
Drawing	12mo,	1 00
" Drafting Instruments and Operations.....	12mo,	1 25
" Manual of Elementary Projection Drawing....	12mo,	1 50
" Manual of Elementary Problems in the Linear Per-		
spective of Form and Shadow.....	12mo,	1 00
" Plane Problems in Elementary Geometry.....	12mo,	1 25
" Primary Geometry.....	12mo,	75
" Elements of Descriptive Geometry, Shadows, and Per-		
spective	8vo,	3 50
" General Problems of Shades and Shadows.....	8vo,	3 00
" Elements of Machine Construction and Drawing..	8vo,	7 50
" Problems, Theorems, and Examples in Descriptive		
Geometry	8vo,	2 50
Weisbach's Kinematics and the Power of Transmission. (Herr-		
mann and Klein.)	8vo,	5 00
Whelpley's Practical Instruction in the Art of Letter En-		
graving	12mo,	2 00
Wilson's Topographic Surveying.....	8vo,	3 50
Wilson's Free-hand Perspective.....	8vo,	2 50
Woolf's Elementary Course in Descriptive Geometry..	Large 8vo,	3 00

ELECTRICITY AND PHYSICS.

Anthony and Brackett's Text-book of Physics. (Magie.)		
	Small 8vo,	3 00
Anthony's Lecture-notes on the Theory of Electrical Measur-		
ments	12mo,	1 00
Benjamin's History of Electricity.....	8vo,	3 00
Benjamin's Voltaic Cell.....	8vo,	3 00
Classen's Quantitative Chemical Analysis by Electrolysis. Her-		
rick and Boltwood.).....	8vo,	3 00

Crehore and Squier's Polarizing Photo-chronograph.....	8vo,	3 00
Dawson's Electric Railways and Tramways..Small 4to, half mor.,		12 50
Dawson's "Engineering" and Electric Traction Pocket-book.	16mo, morocco,	4 00
Flather's Dynamometers, and the Measurement of Power..	12mo,	3 00
Gilbert's De Magnete. (Mottelay.).....	8vo,	2 50
Holman's Precision of Measurements.....	8vo,	2 00
" Telescopic Mirror-scale Method, Adjustments, and Tests	Large 8vo,	75
Landauer's Spectrum Analysis. (Tingle.).....	8vo,	3 00
Le Chatelier's High-temperature Measurements. (Boudouard—Burgess.)	12mo,	3 00
Löb's Electrolysis and Electrosynthesis of Organic Compounds. (Lorenz.)	12mo,	1 00
Lyons's Treatise on Electromagnetic Phenomena.....	8vo,	6 00
* Michie. Elements of Wave Motion Relating to Sound and Light	8vo,	4 00
Niaudet's Elementary Treatise on Electric Batteries (Fishback.)	12mo,	2 50
* Parshall and Hobart's Electric Generators..Small 4to, half mor.,		10 00
Thurston's Stationary Steam-engines.....	8vo,	2 50
* Tillman. Elementary Lessons in Heat.....	8vo,	1 50
Tory and Pitcher. Manual of Laboratory Physics..Small 8vo,		2 00

LAW.

* Davis. Elements of Law.....	8vo,	2 50
* " Treatise on the Military Law of United States..	8vo,	7 00
"	Sheep,	7 50
Manual for Courts-martial.....	16mo, morocco,	1 50
Wait's Engineering and Architectural Jurisprudence.....	8vo,	6 00
"	Sheep,	6 50
" Law of Operations Preliminary to Construction in Engineering and Architecture.....	8vo,	5 00
"	Sheep,	5 50
" Law of Contracts.....	8vo,	3 00
Winthrop's Abridgment of Military Law.....	12mo,	2 50

MANUFACTURES.

Beaumont's Woollen and Worsted Cloth Manufacture....	12mo,	1 50
Bernadou's Smokeless Powder—Nitro-cellulose and Theory of the Cellulose Molecule.....	12mo,	2 50
Bolland's Iron Founder.....	12mo, cloth,	2 50
" "The Iron Founder" Supplement.....	12mo,	2 50
" Encyclopedia of Founding and Dictionary of Foundry Terms Used in the Practice of Moulding....	12mo,	3 00
Eissler's Modern High Explosives.....	8vo,	4 00
Effront's Enzymes and their Applications. (Prescott.)...	8vo,	3 00
Fitzgerald's Boston Machinist.....	18mo,	1 00
Ford's Boiler Making for Boiler Makers.....	18mo,	1 00
Hopkins's Oil-chemists' Handbook.....	8vo,	3 00
Keep's Cast Iron.....	8vo	2 50
Metcalf's Steel. A Manual for Steel-users.....	12mo,	2 00
Metcalf's Cost of Manufactures—And the Administration of Workshops, Public and Private.....	8vo,	5 00
Meyer's Modern Locomotive Construction.....	4to,	10 00
* Reisig's Guide to Piece-dyeing.....	8vo,	25 00
Smith's Press-working of Metals.....	8vo,	3 00
" Wire: Its Use and Manufacture.....	Small 4to,	3 00

Spalding's Hydraulic Cement.....	12mo,	2 00
Spencer's Handbook for Chemists of Beet-sugar Houses.	16mo, morocco,	3 00
“ Handbook for Sugar Manufacturers and their Chemists.....	16mo, morocco,	2 00
Thurston's Manual of Steam-boilers, their Designs, Construction and Operation.....	8vo,	5 00
Walke's Lectures on Explosives.....	8vo,	4 00
West's American Foundry Practice.....	12mo,	2 50
“ Moulder's Text-book.....	12mo,	2 50
Wiechmann's Sugar Analysis.....	Small 8vo,	2 50
Wolff's Windmill as a Prime Mover.....	8vo,	3 00
Woodbury's Fire Protection of Mills.....	8vo,	2 50

MATHEMATICS.

Baker's Elliptic Functions.....	8vo,	1 50
* Bass's Elements of Differential Calculus.....	12mo,	4 00
Briggs's Elements of Plane Analytic Geometry.....	12mo,	1 00
Chapman's Elementary Course in Theory of Equations....	12mo,	1 50
Compton's Manual of Logarithmic Computations.....	12mo,	1 50
Davis's Introduction to the Logic of Algebra.....	8vo,	1 50
* Dickson's College Algebra.....	Large 12mo,	1 50
Halsted's Elements of Geometry.....	8vo,	1 75
“ Elementary Synthetic Geometry.....	8vo,	1 50
Johnson's Three-place Logarithmic Tables: Vest-pocket size, pap.,		15
100 copies for		5 00
Mounted on heavy cardboard, 8 × 10 inches,		25
10 copies for		2 00
“ Elementary Treatise on the Integral Calculus.		
Small 8vo,		1 50
“ Curve Tracing in Cartesian Co-ordinates.....	12mo,	1 00
“ Treatise on Ordinary and Partial Differential Equations.....	Small 8vo,	3 50
“ Theory of Errors and the Method of Least Squares	12mo,	1 50
* “ Theoretical Mechanics.....	12mo,	3 00
* Ludlow and Bass. Elements of Trigonometry and Logarithmic and Other Tables.....	8vo,	3 00
“ Trigonometry. Tables published separately..Each,		2 00
Merriman and Woodward. Higher Mathematics.....	8vo,	5 00
Merriman's Method of Least Squares.....	8vo,	2 00
Rice and Johnson's Elementary Treatise on the Differential Calculus	Small 8vo,	3 00
“ Differential and Integral Calculus. 2 vols. in one.....	Small 8vo,	2 50
Wood's Elements of Co-ordinate Geometry.....	8vo,	2 00
“ Trigonometry: Analytical, Plane, and Spherical....	12mo,	1 00

MECHANICAL ENGINEERING.

MATERIALS OF ENGINEERING, STEAM ENGINES AND BOILERS.

Baldwin's Steam Heating for Buildings.....	12mo,	2 50
Barr's Kinematics of Machinery.....	8vo,	2 50
* Bartlett's Mechanical Drawing.....	8vo,	3 00
Benjamin's Wrinkles and Recipes.....	12mo,	2 00

Carpenter's Experimental Engineering.....	8vo,	6 00
“ Heating and Ventilating Buildings.....	8vo,	3 00
Clerk's Gas and Oil Engine.....	Small 8vo,	4 00
Cromwell's Treatise on Toothed Gearing.....	12mo,	1 50
“ Treatise on Belts and Pulleys.....	12mo,	1 50
Durley's Elementary Text-book of the Kinematics of Machines. (<i>In preparation.</i>)		
Flather's Dynamometers, and the Measurement of Power ..	12mo,	3 00
“ Rope Driving.....	12mo,	2 00
Gill's Gas and Fuel Analysis for Engineers.....	12mo,	1 25
Hall's Car Lubrication.....	12mo,	1 00
Jones's Machine Design:		
Part I.—Kinematics of Machinery.....	8vo,	1 50
Part II.—Form, Strength and Proportions of Parts.....	8vo,	3 00
Kent's Mechanical Engineers' Pocket-book....	16mo, morocco,	5 00
Kerr's Power and Power Transmission.....	8vo,	2 00
MacCord's Kinematics; or, Practical Mechanism.....	8vo,	5 00
“ Mechanical Drawing.....	4to,	4 00
“ Velocity Diagrams.....	8vo,	1 50
Mahan's Industrial Drawing. (Thompson.).....	8vo,	3 50
Poole's Calorific Power of Fuels.....	8vo,	3 00
Reid's Course in Mechanical Drawing.....	8vo,	2 00
“ Text-book of Mechanical Drawing and Elementary Machine Design.....	8vo,	3 00
Richards's Compressed Air.....	12mo,	1 50
Robinson's Principles of Mechanism.....	8vo,	3 00
Smith's Press-working of Metals.....	8vo,	3 00
Thurston's Treatise on Friction and Lost Work in Machin- ery and Mill Work.....	8vo,	3 00
“ Animal as a Machine and Prime Motor and the Laws of Energetics.....	12mo,	1 00
Warren's Elements of Machine Construction and Drawing. .	8vo,	7 50
Weisbach's Kinematics and the Power of Transmission. (Herr- mann—Klein.)	8vo,	5 00
“ Machinery of Transmission and Governors. (Herr- mann—Klein.)	8vo,	5 00
“ Hydraulics and Hydraulic Motors. (Du Bois.) .	8vo,	5 00
Wolff's Windmill as a Prime Mover.....	8vo,	3 00
Wood's Turbines.....	8vo,	2 50

MATERIALS OF ENGINEERING.

Bovey's Strength of Materials and Theory of Structures. .	8vo,	7 50
Burr's Elasticity and Resistance of the Materials of Engineer- ing	8vo,	5 00
Church's Mechanics of Engineering.....	8vo,	6 00
Johnson's Materials of Construction.....	Large 8vo,	6 00
Keep's Cast Iron. (<i>In preparation.</i>)		
Lanza's Applied Mechanics.....	8vo,	7 50
Martens's Handbook on Testing Materials. (Henning.)...	8vo,	7 50
Merriman's Text-book on the Mechanics of Materials....	8vo,	4 00
“ Strength of Materials.....	12mo,	1 00
Metcalf's Steel. A Manual for Steel-users.....	12mo,	2 00
Smith's Wire: Its Use and Manufacture.....	Small 4to,	3 00
Thurston's Materials of Engineering.....	3 vols., 8vo,	8 00
Part II.—Iron and Steel.....	8vo,	3 50
Part III.—A Treatise on Brasses, Bronzes and Other Alloys and their Constituents.....	8vo,	2 50
Thurston's Text-book of the Materials of Construction....	8vo,	5 00

Wood's Treatise on the Resistance of Materials and an Appendix on the Preservation of Timber.....	8vo,	2 00
“ Elements of Analytical Mechanics.....	8vo,	3 00

STEAM ENGINES AND BOILERS.

Carnot's Reflections on the Motive Power of Heat. (Thurston.)	12mo,	1 50
Dawson's "Engineering" and Electric Traction Pocket-book.	16mo, morocco,	4 00
Ford's Boiler Making for Boiler Makers.....	18mo,	1 00
Hemenway's Indicator Practice and Steam-engine Economy.	12mo,	2 00
Hutton's Mechanical Engineering of Power Plants.....	8vo,	5 00
“ Heat and Heat-engines.....	8vo,	5 00
Kent's Steam-boiler Economy.....	8vo,	4 00
Kneass's Practice and Theory of the Injector.....	8vo,	1 50
MacCord's Slide-valves.....	8vo,	2 00
Meyer's Modern Locomotive Construction.....	4to,	10 00
Peabody's Manual of the Steam-engine Indicator.....	12mo,	1 50
“ Tables of the Properties of Saturated Steam and Other Vapors.....	8vo,	1 00
“ Thermodynamics of the Steam-engine and Other Heat-engines	8vo,	5 00
“ Valve-gears for Steam-engines.....	8vo,	2 50
Peabody and Miller. Steam-boilers.....	8vo,	4 00
Pray's Twenty Years with the Indicator.....	Large 8vo,	2 50
Pupin's Thermodynamics of Reversible Cycles in Gases and Saturated Vapors. (Osterberg.).....	12mo,	1 25
Reagan's Locomotive Mechanism and Engineering.....	12mo,	2 00
Rontgen's Principles of Thermodynamics. (Du Bois.)...	8vo,	5 00
Sinclair's Locomotive Engine Running and Management..	12mo,	2 00
Smart's Handbook of Engineering Laboratory Practice..	12mo,	2 50
Snow's Steam-boiler Practice.....	8vo,	3 00
Spangler's Valve-gears.....	8vo,	2 50
“ Notes on Thermodynamics.....	12mo,	1 00
Thurston's Handy Tables.....	8vo,	1 50
“ Manual of the Steam-engine.....	2 vols., 8vo,	10 00
Part I.—History, Structure, and Theory.....	8vo,	6 00
Part II.—Design, Construction, and Operation.....	8vo,	6 00
Thurston's Handbook of Engine and Boiler Trials, and the Use of the Indicator and the Prony Brake.....	8vo,	5 00
“ Stationary Steam-engines.....	8vo,	2 50
“ Steam-boiler Explosions in Theory and in Practice	12mo,	1 50
“ Manual of Steam-boilers, Their Designs, Construction, and Operation.....	8vo,	5 00
Weisbach's Heat, Steam, and Steam-engines. (Du Bois.)..	8vo,	5 00
Whitham's Steam-engine Design.....	8vo,	5 00
Wilson's Treatise on Steam-boilers. (Flather.).....	16mo,	2 50
Wood's Thermodynamics, Heat Motors, and Refrigerating Machines	8vo,	4 00

MECHANICS AND MACHINERY.

Barr's Kinematics of Machinery.....	8vo,	2 50
Bovey's Strength of Materials and Theory of Structures..	8vo,	7 50
Chordal.—Extracts from Letters.....	12mo,	2 00
Church's Mechanics of Engineering.....	8vo,	6 00
“ Notes and Examples in Mechanics.....	8vo,	2 00

Compton's First Lessons in Metal-working.....	12mo,	1 50
Compton and De Groodt. The Speed Lathe.....	12mo,	1 50
Cromwell's Treatise on Toothed Gearing.....	12mo,	1 50
“ Treatise on Belts and Pulleys.....	12mo,	1 50
Dana's Text-book of Elementary Mechanics for the Use of Colleges and Schools.....	12mo,	1 50
Dingey's Machinery Pattern Making.....	12mo,	2 00
Dredge's Record of the Transportation Exhibits Building of the World's Columbian Exposition of 1893.....	4to, half mor.,	5 00
Du Bois's Elementary Principles of Mechanics:		
Vol. I.—Kinematics	8vo,	3 50
Vol. II.—Statics.....	8vo,	4 00
Vol. III.—Kinetics.....	8vo,	3 50
Du Bois's Mechanics of Engineering. Vol. I.....	Small 4to,	10 00
Durley's Elementary Text-book of the Kinematics of Machines. (<i>In preparation.</i>)		
Fitzgerald's Boston Machinist.....	16mo,	1 00
Flather's Dynamometers, and the Measurement of Power.....	12mo,	3 00
“ Rope Driving.....	12mo,	2 00
Hall's Car Lubrication.....	12mo,	1 00
Holly's Art of Saw Filing.....	18mo,	75
* Johnson's Theoretical Mechanics.....	12mo,	3 00
Jones's Machine Design:		
Part I.—Kinematics of Machinery.....	8vo,	1 50
Part II.—Form, Strength and Proportions of Parts....	8vo,	3 00
Kerr's Power and Power Transmission.....	8vo,	2 00
Lanza's Applied Mechanics.....	8vo,	7 50
MacCord's Kinematics; or, Practical Mechanism.....	8vo,	5 00
“ Velocity Diagrams.....	8vo,	1 50
Merriman's Text-book on the Mechanics of Materials.....	8vo,	4 00
* Michie's Elements of Analytical Mechanics.....	8vo,	4 00
Reagan's Locomotive Mechanism and Engineering.....	12mo,	2 00
Reid's Course in Mechanical Drawing.....	8vo,	2 00
“ Text-book of Mechanical Drawing and Elementary Machine Design.....	8vo,	3 00
Richards's Compressed Air.....	12mo,	1 50
Robinson's Principles of Mechanism.....	8vo,	3 00
Sinclair's Locomotive-engine Running and Management..	12mo,	2 00
Smith's Press-working of Metals.....	8vo,	3 00
Thurston's Treatise on Friction and Lost Work in Machinery and Mill Work.....	8vo,	3 00
“ Animal as a Machine and Prime Motor, and the Laws of Energetics.....	12mo,	1 00
Warren's Elements of Machine Construction and Drawing..	8vo,	7 50
Weisbach's Kinematics and the Power of Transmission. (Herrman—Klein.)	8vo,	5 00
“ Machinery of Transmission and Governors. (Herr- man—Klein.)	8vo,	5 00
Wood's Elements of Analytical Mechanics.....	8vo,	3 00
“ Principles of Elementary Mechanics.....	12mo,	1 25
“ Turbines	8vo,	2 50
The World's Columbian Exposition of 1893.....	4to,	1 00

METALLURGY.

Egleston's Metallurgy of Silver, Gold, and Mercury:		
Vol. I.—Silver.....	8vo,	7 50
Vol. II.—Gold and Mercury.....	8vo,	7 50

Keep's Cast Iron.....	8vo,	2 50
Kunhardt's Practice of Ore Dressing in Europe.....	8vo,	1 50
Le Chatelier's High-temperature Measurements. (Boudouard—Burgess.)	12mo,	3 00
Metcalf's Steel. A Manual for Steel-users.....	12mo,	2 00
Thurston's Materials of Engineering. In Three Parts.....	8vo,	8 00
Part II.—Iron and Steel.....	8vo,	3 50
Part III.—A Treatise on Brasses, Bronzes and Other Alloys and Their Constituents.....	8vo,	2 50

MINERALOGY.

Barringer's Description of Minerals of Commercial Value.	Oblong, morocco,	2 50
Boyd's Resources of Southwest Virginia.....	8vo,	3 00
" Map of Southwest Virginia.....	Pocket-book form,	2 00
Brush's Manual of Determinative Mineralogy. (Penfield.)	8vo,	4 00
Chester's Catalogue of Minerals.....	8vo, paper,	1 00
" Dictionary of the Names of Minerals.....	Cloth,	1 25
" Dictionary of the Names of Minerals.....	8vo,	3 50
Dana's System of Mineralogy.....	Large 8vo, half leather,	12 50
" First Appendix to Dana's New "System of Mineralogy."	Large 8vo,	1 00
" Text-book of Mineralogy.....	8vo,	4 00
" Minerals and How to Study Them.....	12mo,	1 50
" Catalogue of American Localities of Minerals.	Large 8vo,	1 00
" Manual of Mineralogy and Petrography.....	12mo,	2 00
Egleston's Catalogue of Minerals and Synonyms.....	8vo,	2 50
Hussak's The Determination of Rock-forming Minerals. (Smith.)	Small 8vo,	2 00
* Penfield's Notes on Determinative Mineralogy and Record of Mineral Tests.....	8vo, paper,	50
Rosenbusch's Microscopical Physiography of the Rock-making Minerals. (Idding's.).....	8vo,	5 00
* Tillman's Text-book of Important Minerals and Rocks.	8vo,	2 00
Williams's Manual of Lithology.....	8vo,	3 00

MINING.

Beard's Ventilation of Mines.....	12mo,	2 50
Boyd's Resources of Southwest Virginia.....	8vo,	3 00
" Map of Southwest Virginia.....	Pocket-book form,	2 00
* Drinker's Tunneling, Explosive Compounds, and Rock Drills.	4to, half morocco,	25 00
Eissler's Modern High Explosives.....	8vo,	4 00
Goodyear's Coal-mines of the Western Coast of the United States	12mo,	2 50
Ihlseng's Manual of Mining.....	8vo,	4 00
Kunhardt's Practice of Ore Dressing in Europe.....	8vo,	1 50
O'Driscoll's Notes on the Treatment of Gold Ores.....	8vo,	2 00
Sawyer's Accidents in Mines.....	8vo,	7 00
Walke's Lectures on Explosives.....	8vo,	4 00
Wilson's Cyanide Processes.....	12mo,	1 50
Wilson's Chlorination Process.....	12mo,	1 50
Wilson's Hydraulic and Placer Mining.....	12mo,	2 00
Wilson's Treatise on Practical and Theoretical Mine Ventilation	12mo,	1 25

SANITARY SCIENCE.

Folwell's Sewerage. (Designing, Construction and Maintenance.)	8vo,	3 00
" Water-supply Engineering.....	8vo,	4 00
Fuertes's Water and Public Health.....	12mo,	1 50
" Water-filtration Works.....	12mo,	2 50
Gerhard's Guide to Sanitary House-inspection.....	16mo,	1 00
Goodrich's Economical Disposal of Towns' Refuse...Demy	8vo,	3 50
Hazen's Filtration of Public Water-supplies.....	8vo,	3 00
Kiersted's Sewage Disposal.....	12mo,	1 25
Mason's Water-supply. (Considered Principally from a Sanitary Standpoint.....	8vo,	5 00
" Examination of Water. (Chemical and Bacteriological.)	12mo,	1 25
Merriman's Elements of Sanitary Engineering.....	8vo,	2 00
Nichols's Water-supply. (Considered Mainly from a Chemical and Sanitary Standpoint.) (1883.)	8vo,	2 50
Ogden's Sewer Design.....	12mo,	2 00
* Price's Handbook on Sanitation.....	12mo,	1 50
Richards's Cost of Food. A Study in Dietaries.....	12mo,	1 00
Richards and Woodman's Air, Water, and Food from a Sanitary Standpoint.....	8vo,	2 00
Richards's Cost of Living as Modified by Sanitary Science.	12mo,	1 00
Rideal's Sewage and Bacterial Purification of Sewage.....	8vo,	3 50
Turneure and Russell's Public Water-supplies.....	8vo,	5 00
Whipple's Microscopy of Drinking-water.....	8vo,	3 50
Woodhull's Notes on Military Hygiene.....	16mo,	1 50

MISCELLANEOUS.

Barker's Deep-sea Soundings.....	8vo,	2 00
Emmons's Geological Guide-book of the Rocky Mountain Excursion of the International Congress of Geologists.	Large 8vo,	1 50
Ferrel's Popular Treatise on the Winds.....	8vo,	4 00
Haines's American Railway Management.....	12mo,	2 50
Mott's Composition, Digestibility, and Nutritive Value of Food.	Mounted chart,	1 25
" Fallacy of the Present Theory of Sound.....	16mo,	1 00
Ricketts's History of Rensselaer Polytechnic Institute, 1824-1894.....	Small 8vo,	3 00
Rotherham's Emphasised New Testament.....	Large 8vo,	2 00
" Critical Emphasised New Testament.....	12mo,	1 50
Steel's Treatise on the Diseases of the Dog.....	8vo,	3 50
Totten's Important Question in Metrology.....	8vo,	2 50
The World's Columbian Exposition of 1893.....	4to,	1 00
Worcester and Atkinson. Small Hospitals, Establishment and Maintenance, and Suggestions for Hospital Architecture, with Plans for a Small Hospital.....	12mo,	1 25

HEBREW AND CHALDEE TEXT-BOOKS.

Green's Grammar of the Hebrew Language.....	8vo,	3 00
" Elementary Hebrew Grammar.....	12mo,	1 25
" Hebrew Chrestomathy.....	8vo,	2 00
Gesenius's Hebrew and Chaldee Lexicon to the Old Testament Scriptures. (Tregelles.).....	Small 4to, half morocco,	5 00
Letteris's Hebrew Bible.....	8vo,	2 25

MAR. 27 1902

1 COPY DEL TO CAT. DIV.

MAR. 27 1902

LIBRARY OF CONGRESS



0 014 336 841 5